

## Virginia Title V Operating Permit

Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Permit Number	Effective Date	<u>Expiration Date</u>
VA-60116	<b>November 13, 2001</b>	<b>November 13, 2006</b>

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	<b>BP Amoco Oil Company</b>
Mailing Address:	PO Box 578, Yorktown, VA 23690
Facility Name:	Yorktown Refinery
Facility Location:	Route 173, 3 miles east of Route 17 in York County

Permit Issued this **13th** day of **November, 2001**

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Dennis H. Treacy, Director, Department of Environmental Quality

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Signature Date

Table of Contents, pages 1-2  
Permit Conditions, pages 3-45

**BP AMOCO OIL COMPANY - YORKTOWN REFINERY TITLE V OPERATING PERMIT TABLE OF CONTENTS**

<b>IFACILITY INFORMATION .....</b>	<b>3</b>
<b>IIEMISSIONS UNIT SPECIFIC REQUIREMENTS .....</b>	<b>4</b>
A.INSIGNIFICANT EMISSION UNIT INVENTORY LIST .....	4
B.SIGNIFICANT EMISSIONS UNIT INVENTORY LIST .....	4
1.Process Units.....	4
2.Combustion Sources.....	5
3.Loading Racks And Oil-Water Separators.....	5
4.Pollution Control Equipment.....	7
C.EMISSION UNIT SPECIFIC PERMIT TERMS (FEDERALLY ENFORCEABLE) .....	8
1.Combustion Sources.....	8
2.FCCU.....	14
3.Coke Crusher.....	16
4.SRU .....	18
D.NSPS SUBPART VV, 40 CFR 60- STANDARDS OF PERFORMANCE FOR EQUIPMENT LEAKS OF VOC IN THE SYNTHETIC ORGANIC CHEMICALS MANUFACTURING INDUSTRY; AND SUBPART GGG, 40 CFR 60 - STANDARDS OF PERFORMANCE FOR EQUIPMENT LEAKS OF VOC IN PETROLEUM REFINERIES .....	20
E.NSPS SUBPART J - SO <sub>2</sub> EMISSIONS FROM FUEL GAS COMBUSTION UNITS.....	23
F.NSPS SUBPART S K: STORAGE VESSELS FOR PETROLEUM LIQUIDS FOR WHICH CONSTRUCTION, RECONSTRUCTION, OR MODIFICATION COMMENCED AFTER JUNE 11, 1973, AND PRIOR TO MAY 19, 1978; AND KB: VOLATILE ORGANIC LIQUID STORAGE VESSELS FOR WHICH CONSTRUCTION, RECONSTRUCTION, OR MODIFICATION COMMENCED AFTER JULY 23, 1984.....	24
G.NSPS SUBPART QQQ - STANDARDS OF PERFORMANCE FOR VOC EMISSIONS FROM PETROLEUM REFINERY WASTEWATER SYSTEMS.....	28
H.NESHAP SUBPARTS A AND CC, 40 CFR 63 - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FROM PETROLEUM REFINERIES.....	30
1.Tanks.....	30
2.Gasoline Loading Rack .....	34
3.Group 1 Miscellaneous Process Vents:.....	35
4.Equipment Leak Standards.....	36
5.Wastewater provisions.....	37
6.NESHAP Subpart CC Overall Reporting & Recordkeeping.....	39
I.EMISSION UNIT SPECIFIC PERMIT TERMS (STATE ONLY ENFORCEABLE) .....	40
1.Standard for hydrogen sulfide.....	40
2.Standard for Odor.....	40
3.Standard for Toxic Pollutants .....	40
<b>IIIFACILITY-WIDE AND GENERAL REQUIREMENTS.....</b>	<b>41</b>
A.FACILITY WIDE CONDITIONS AND PERMIT TERMS (FEDERALLY ENFORCEABLE) .....	41
1.Existing Source Standard for Visible Emissions.....	41
2.New Source Standard for visible emissions.....	41
B.GENERAL PERMIT CONDITIONS (FEDERALLY ENFORCEABLE) .....	42
1.Recordkeeping and reporting .....	42
2.Failure/Malfunction Reporting.....	43
3.Permit Deviation Reporting.....	43
4.Severability .....	43
5.Duty to Comply.....	43
6.Need to Halt or Reduce Activity not a Defense.....	44
7.Permit Action for Cause.....	44
8.Property Rights.....	44
9.Duty to Submit Information.....	44
10.Duty to Supplement or Correct Application.....	44
11.Duty to Pay Permit Fees.....	44

12. Changes to Permits for Emissions Trading .....	45
13. Emissions Trading.....	45
14. Alternative operating scenarios.....	45
15. Inspection and entry requirements .....	45
16. Annual Compliance Certification.....	46
17. Reopening For Cause.....	46
18. Permit Availability.....	47
19. Transfer of Permits .....	47
20. Permit Expiration.....	47
21. Malfunction as an Affirmative Defense.....	47
22. Permit Revocation or Termination for Cause .....	48
C.PERMIT SHIELD .....	48

## I. Facility Information

**Permittee**

BP Amoco Oil Company  
P.O. Box 578  
Yorktown, VA 23690

**Facility**

Yorktown Refinery  
Route 173, 3 miles east of U.S. 17  
Yorktown, VA 23690

**Responsible Official**

Felix R. Strater  
Business Unit Leader  
(757) 898-9701

**Contact person**

Peter Buckman  
Environmental Specialist  
(757) 898-9673

**AIRS Identification Number:** 51-199-00004

**Facility Description:** The BP Amoco - Yorktown Refinery operates under SIC Code Number 2911 as a petroleum refinery. The facility contains approximately twelve different units that are involved in one of the following four processes in converting crude oil into useable products: separation, conversion, treating, and blending. Process units can make a product that is immediately ready for retail, ready for blending into finished products, or one that requires further processing at another process unit. In addition to three top-quality gasoline products, the refinery manufactures other products including propane, butane, jet fuels, furnace oils, distillate fuels, petroleum coke, and sulfur. The BP Amoco Yorktown Refinery operates 24 hours per day, 365 days per year with an employee base of over 220 people. The throughput, or manufacturing capacity, is set by a combination of economic factors and physical equipment capacities. In 1994, the refinery processed an average of 56,000 barrels of crude oil per day (one barrel equals 42 gallons). The refinery in the past has refined up to 65,000 barrels of crude oil per day, however, the refinery's maximum capacity has not yet been demonstrated.

## II. Emissions Unit Specific Requirements

### A. Insignificant Emission Unit Inventory List

Emission Unit No.	Emission Unit Description	Citation	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
P9	All fixed roof tanks less than 40,000 gallons capacity or storing hydrocarbons with a vapor pressure less than 1.5 PSI	5-80-720 B.2	VOC	Less than 5 T/Y VOC emissions
P9	All floating roof tanks storing hydrocarbons with a vapor pressure less than 1.5 PSI and no applicable requirements	5-80-720 B.2	VOC	Less than 5 T/Y VOC emissions
Ubiquitous	LPG truck and railcar loading	5-80-720 B.2	VOC	Less than 5 T/Y VOC emissions
Ubiquitous	LPG storage	5-80-720 B.2	VOC	Less than 5 T/Y VOC emissions
Ubiquitous	Lube oil tanks and reservoirs and storage tanks less than 1000 gallons capacity	5-80-720 C.3.	NA	Less than 1000 gallons capacity
Ubiquitous	Emergency diesel engines operating less than 500 H/Y	5-80-720 C.4.b.	NA	Less than 6,667 HP

### B. Significant Emissions Unit Inventory List

#### 1. Process Units

Emission Unit No.	Stack No	Unit Name/Description and Date of Construction	Size/Rated Capacity Units <sup>1</sup>
P1	NA	CRUDE (before 1972)	3.2 MB
P2	S005	FCCU (before 1972)	1.5 MB
P3	NA	POLY(before 1972)/ETHER (1985)	0.6/0.6 MB
P4	NA	TREATING (before 1972)	1.6 MB
P5	NA	COKER (before 1972)	1.1 MB
P6	NA	NDU/UF (before 1972)	0.60 MB
P7	NA	DDU (before 1972)	1.1 MB
P8	S007	SRU (before 1972)	3.1 LT
P9	NA	BLEND/TANK (before 1972 except where noted)	NA
P10	NA	LOADING (before 1972)	NA

<sup>1</sup> Unit capacities are listed on an hourly basis. Maximum rated capacities on all units listed are not regulated. Changes in rated capacity do not necessarily affect emissions from the unit. Values provided for descriptive purposes only. These data are not applicable requirements, are not state or federally enforceable, and are not to be construed as permit limits. MB=1000 barrels LT = Long Ton

P11	NA	WWTP (before 1972 except for additions under 40 CFR 61 Subpart FF added in 1993 as noted)	NA
P13	NA	UTILITIES (before 1972)	NA

## 2. Combustion Sources

Emission Unit No.	Stack No.	Emission Unit Description	Manufacturer and Date of Construction	Size/Rated Capacity <sup>2</sup> (MMBTU/Hour)
F1	S001	Utility Boiler 1	Babcock & Wilcox Steam Boiler (before 1972)	140 (refinery fuel gas & oil)
F2	S002	Utility Boiler 2	Babcock & Wilcox Steam Boiler (before 1972)	140 (refinery fuel gas & oil)
F4	S003	Coker Furnace BA-101	(1990)	97 (refinery fuel gas)
F6	S004	ULTRA furnace F-101	(before 1972)	44 (refinery fuel gas)
F8	S004	ULTRA furnace F-201	(before 1972)	28 (refinery fuel gas)
F9	S004	ULTRA furnace F-301	(before 1972)	38 (refinery fuel gas)
F10 & F11	S004	ULTRA furnace F-302 A&B	(1990)	79 (refinery fuel gas)
F12	S004	ULTRA furnace F-303	(before 1972)	50 (refinery fuel gas)
F13	S004	ULTRA furnace F-304	(before 1972)	35 (refinery fuel gas)
F14 & F15	S004	ULTRA furnace F-305/6	(1990)	20 (refinery fuel gas)
F16	S004	ULTRA furnace F-307	(before 1972)	13 (refinery fuel gas)
F20	S005	Crude atmospheric / CO Furnace B-101	(1978)	311 (refinery fuel gas)
F21	S005	Crude Vacuum Furnace B-102	(1978)	79 (refinery fuel gas)

## 3. Loading Racks And Oil-Water Separators

Emission Unit No.	Stack No.	Name Of Product Loaded Or Recovered	Maximum Hourly Throughput <sup>2</sup> (Gallons)
R1	S008	Gasoline, Distillate, Petroleum Products (Truck Loading Rack)	85,600
R10	NA	Petroleum Products (Marine loading)	420,000
R11	NA	LPG/Butane (Truck Loading Rack)	60,000
R12	NA	LPG/Butane (Railcar Loading Rack)	75,000

<sup>2</sup> Unit capacities are listed on an hourly basis. Maximum rated capacities on all units listed are not regulated. Changes in rated capacity do not necessarily affect emissions from the unit. Values provided for descriptive purposes only. The **maximum rated capacities and maximum hourly throughputs** are not applicable requirements, are not state or federally enforceable, and are not to be construed as permit limits.

Emission Unit No.	Stack No.	Name Of Product Loaded Or Recovered	Maximum Hourly Throughput <sup>2</sup> (Gallons)
R2	S004	Recovered hydrocarbons (Ultraformer/Utilities O/W separators)	3,000
R3	S005	Recovered hydrocarbons (Crude Unit O/W separators)	3,000
R4	S006	Recovered hydrocarbons (Coker O/W separators)	3,000
R5-R8	S009	Recovered hydrocarbons (WWTP 4 CPI separators)	2,100 (each)
R9	S009	IGF Float (Induced Gas Flotation Unit)	12,000

#### 4. Pollution Control Equipment

Emission Unit No.	Stack No.	Device Reference Number	Controlled Pollutant	Control Equipment Description <sup>3</sup>
R1	S008	A1	VOC, HAP	John Zink Vapor Combustion Unit
R2	S004	A4	VOC, benzene (work practice)	carbon canister
R3	S005	A5	VOC, benzene (work practice)	carbon canister
R4	S006	A6	VOC, benzene (work practice)	carbon canister
R5-R8, R9	S009	A2	VOC, benzene (work practice)	carbon canister
P12A	S010	A3	VOC, HAP	Main Refinery Flare (before 1972)
P12B	S011	A4	VOC, HAP	Auxiliary Flare (before 1972)
F7	S007	A8	H <sub>2</sub> S	Furnace F-102 - SRU tail gas incinerator
All	S012	A7 <sup>4</sup>	VOC, benzene (work practice)	Ubiquitous carbon canisters on various process unit underground sewers and sumps

<sup>3</sup> Control equipment description is provided for descriptive purposes only. Options on type of required pollution control equipment may be exercised without a permit modification as long as the equipment complies with the appropriate applicable requirement.

<sup>4</sup> S012 and A7 refers to the various carbon canisters used as control devices on underground sewers, junction boxes, and sumps regulated under 40 CFR 61 Subpart FF other than those on the R2 - R9. The location and configuration of these ubiquitous devices can vary with need. They are not significant sources nor do they require individual identification for application of 40 CFR 61 Subpart FF or the 40 CFR 63 Subpart CC. The control devices on R5 - R9 are specifically listed only because of the requirement to specifically list these separators. Options on type of required pollution control equipment may be exercised without a permit modification as long as the equipment complies with the appropriate applicable requirement.

## C. Emission Unit Specific Permit Terms (Federally Enforceable)

### 1. Combustion Sources

#### a. Limitations

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
COKER	Coker Furnace BA-101	CO	3.4 lbs/hour, 15.0 tons/year, rolling 12-month basis	Permit to Construct and Operate, 4/12/1990, Part I, Condition 5
COKER	Coker Furnace BA-101	NO <sub>2</sub>	13.7 lbs/hour, 60.1 tons/year, rolling 12-month basis	Permit to Construct and Operate, 4/12/1990, Part I, Condition 5
COKER	Coker Furnace BA-101	PM-10	0.49 lbs/hour, 2.1 tons/year, rolling 12-month basis	Permit to Construct and Operate, 4/12/1990, Part I, Condition 5
COKER	Coker Furnace BA-101	SO <sub>2</sub> /H <sub>2</sub> S	2.6 lbs/hour, 11.6 tons/year, rolling 12-month basis; 0.10 grains H <sub>2</sub> S per dry cubic foot	Permit to Construct and Operate, 4/12/1990, Part I, Conditions 4 and 5
COKER	Coker Furnace BA-101	TSP	0.49 lbs/hour, 2.1 tons/year, rolling 12-month basis	Permit to Construct and Operate, 4/12/1990, Part I, Condition 5
COKER	Coker Furnace BA-101	VOC	0.3 lbs/hour, 1.3 tons/year, rolling 12-month basis	Permit to Construct and Operate, 4/12/1990, Part I, Condition 5
COKER	Coker Furnace BA-101	OPACITY	5% opacity.	Permit to Construct and Operate, 4/12/1990, Part I, Condition 6
CRUDE	Crude Atmospheric / CO Furnace B-101	PM	Maximum allowable emission, E, in pounds of particulate per million Btu input, by the following equation: $E = 1.0906H^{0.2594}$ , where H is the total capacity in mmBTU per hour, rolling 12-month basis (fuel gas only).	9 VAC 5-40-900. Standard for particulate matter.
CRUDE	Crude Atmospheric / CO Furnace B-101	SO <sub>2</sub>	2.64 lbs/mmBTU rolling 12-month basis (fuel gas only)	9 VAC 5-40-930. Standard for sulfur dioxide.
CRUDE	Crude Vacuum Furnace B-102	PM	Maximum allowable emission, E, in pounds of particulate per million Btu input, by the following equation: $E = 1.0906H^{0.2594}$ , where H is the total capacity in millions of Btu per hour, rolling 12-month basis.	9 VAC 5-40-900. Standard for particulate matter.
CRUDE	Crude Vacuum Furnace B-102	SO <sub>2</sub>	2.64 lbs/mmBTU, rolling 12-month basis	9 VAC 5-40-930. Standard for sulfur dioxide.
CRUDE	Crude Atmospheric / CO Furnace, and Crude Vacuum Furnace B-101 & B-102	OPACITY	COM measured opacity of 30% or less will not cause a violation of the Standard for Visible Emissions	9 VAC 5-40-940.B

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
CRUDE	Crude Atmospheric / CO Furnace, and Crude Vacuum Furnace B-101 & B-102	OPACITY	Visible emission not to exceed 20% opacity by EPA method 9 except for one six minute period in any one hour of not more than 60%	9 VAC 5-40-940.B.
NDU/UF	Furnace F-101	PM	Maximum allowable emission, E, in pounds of particulate per million Btu input, by the following equation: $E = 1.0906H^{0.2594}$ , where H is the total capacity in millions of Btu per hour.	9 VAC 5-40-900. Standard for particulate matter.
NDU/UF	Furnace F-101	SO <sub>2</sub>	2.64 lbs/mmBTU, rolling 12-month basis	9 VAC 5-40-930. Standard for sulfur dioxide.
NDU/UF	Furnace F-201	PM	Maximum allowable emission, E, in pounds of particulate per million Btu input, by the following equation: $E = 1.0906H^{0.2594}$ , where H is the total capacity in millions of Btu per hour.	9 VAC 5-40-900. Standard for particulate matter.
NDU/UF	Furnace F-201	SO <sub>2</sub>	2.64 lbs/mmBTU, rolling 12-month basis	9 VAC 5-40-930. Standard for sulfur dioxide.
NDU/UF	Furnace F-301	PM	Maximum allowable emission, E, in pounds of particulate per million Btu input, by the following equation: $E = 1.0906H^{0.2594}$ , where H is the total capacity in millions of Btu per hour, rolling 12-month basis.	9 VAC 5-40-900. Standard for particulate matter.
NDU/UF	Furnace F-301	SO <sub>2</sub>	2.64 lbs/mmBTU, rolling 12-month basis	9 VAC 5-40-930. Standard for sulfur dioxide.
NDU/UF	Furnace F-303	PM	Maximum allowable emission, E, in pounds of particulate per million Btu input, by the following equation: $E = 1.0906H^{0.2594}$ , where H is the total capacity in millions of Btu per hour, rolling 12-month basis.	9 VAC 5-40-900. Standard for particulate matter.
NDU/UF	Furnace F-303	SO <sub>2</sub>	2.64 lbs/mmBTU, rolling 12-month basis	9 VAC 5-40-930. Standard for sulfur dioxide.
NDU/UF	Furnace F-304	PM	Maximum allowable emission, E, in pounds of particulate per million Btu input, by the following equation: $E = 1.0906H^{0.2594}$ , where H is the total capacity in millions of Btu per hour, rolling 12-month basis.	9 VAC 5-40-900. Standard for particulate matter.
NDU/UF	Furnace F-304	SO <sub>2</sub>	2.64 lbs/mmBTU, rolling 12-month basis	9 VAC 5-40-930. Standard for sulfur dioxide.
NDU/UF	Furnace F-307	PM	Maximum allowable emission, E, in pounds of particulate per million Btu input, by the following equation: $E = 1.0906H^{0.2594}$ , where H is the total capacity in millions of Btu per hour, rolling 12-month basis.	9 VAC 5-40-900. Standard for particulate matter.

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
NDU/UF	Furnace F-307	SO <sub>2</sub>	2.64 lbs/mmBTU, rolling 12-month basis	9 VAC 5-40-930. Standard for sulfur dioxide.
NDU/UF	Furnace F-305/6	CO	0.8 lbs/hour, 3.5 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 9
NDU/UF	Furnace F-305/6	NO <sub>2</sub>	0.08 lbs/mmBTU, 1.6 lbs/hour, 6.9 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 9
NDU/UF	Furnace F-305/6	PM-10	0.1 lbs/hour, 0.3 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 9
NDU/UF	Furnace F-305/6	SO <sub>2</sub>	0.6 lbs/hour, 2.6 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 9
NDU/UF	Furnace F-305/6	TSP	0.1 lbs/hour, 0.3 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 9
NDU/UF	Furnace F-305/6	VOC	0.1 lbs/hour, 0.3 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 9
NDU/UF	Furnace F-305/6	OPACITY	5% opacity	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 11
NDU/UF	Furnace F302 A&B	CO	3.1 lbs/hour, 13.8 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 8
NDU/UF	Furnace F302 A&B	NO <sub>2</sub>	0.08 lbs/mmBTU, 6.3 lbs/hour, 27.4 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 8
NDU/UF	Furnace F302 A&B	PM-10	0.3 lbs/hour, 1.1 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 8
NDU/UF	Furnace F302 A&B	SO <sub>2</sub>	2.3 lbs/hour, 10.3 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 8
NDU/UF	Furnace F302 A&B	TSP	0.3 lbs/hour, 1.1 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 8
NDU/UF	Furnace F302 A&B	VOC	0.2 lbs/hour, 1.1 tons/year, rolling 12-month basis	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 8
NDU/UF	Furnace F302 A&B	OPACITY	5% opacity	Permit to Construct, Install, Modify, and Operate, 9/28/1990, Part I, Condition 11
UTILITIES	Refinery boilers (gas or oil)	PM	Maximum allowable emission, E, in pounds of particulate per million Btu input, by the following equation: $E = 1.0906H^{0.2594}$ , where H is the total capacity in millions of Btu per hour, rolling 12-month basis.	9 VAC 5-40-900. Standard for particulate matter.
UTILITIES	Refinery boilers (gas or oil)	SO <sub>2</sub>	2.64 lbs/mmBTU, rolling 12-month basis	9 VAC 5-40-930. Standard for sulfur dioxide.

1. Those combustion sources that are subject to 40 CFR 60 Subpart J (Coker Furnace BA-101, Furnace F-305/6, Furnace F-302 A&B, **Crude Furnace B-101, and Vacuum Furnace B-102**) shall demonstrate compliance with the SO<sub>2</sub> emission limitations by the use of an H<sub>2</sub>S CEM as specified in Subsection II.E of this permit.  
(9 VAC 5-50-400, 9 VAC 5-40-930, 9 VAC 5-80-110 B, and 40 CFR 60.105 (a)(3))
2. Emissions from each of the combustion sources at the refinery shall not exceed the limitations specified in Table C.1.a.  
(9 VAC 5-80-110)
3. SO<sub>2</sub> emissions from Units F-302 A&B and **Furnace F-305/6** shall be controlled by treating the sour fuel gas to contain no more than 0.10 grains of hydrogen sulfide per dry cubic foot at standard conditions.  
(9 VAC 5-80-10 F and Specific Condition 4 of the 9/28/90 permit)
4. NO<sub>x</sub> emissions from the Units F-302 A&B shall be controlled by the use of low NO<sub>x</sub> burners.  
(9 VAC 5-80-10 F and Specific Condition 5 of the 9/28/90 permit)
5. The approved fuel for Units F-302 A&B and **Furnace F-305/6** is refinery fuel gas. A change in the fuel may require a permit to modify and operate.  
(9 VAC 5-80-10 and Specific Condition 17 of the 9/28/90 permit)
6. **The approved fuel for Coker Furnace BA-101 is refinery fuel gas. A change in the fuel may require a permit to modify and operate.**  
(9 VAC 5-80-10 and Specific Condition 8 of the 4/12/90 permit)

**b. Testing**

1. No specific testing requirements are imposed on the combustion sources for these applicable requirements. Compliance with each limitation shall be based on compliance with the monitoring, recordkeeping, and reporting provisions of this section.  
(9 VAC 5-80-110 B)

**c. Monitoring**

1. Emissions of CO, NO<sub>x</sub>, PM, PM-10, **VOC**, and TSP from the combustion units shall be monitored by keeping records of **fuel consumption**, type of fuel used, and appropriate data on fuel properties. Emissions shall be calculated monthly as the sum of each consecutive 12-month period for pollutants other than SO<sub>2</sub> using Chapter 1, Sections 3 and 4 of AP-42, 5th Edition, Supplement B or other appropriate emission factor as approved by DEQ. **Data calculated monthly shall be used to determine compliance with ton per year and pound per hour emission limitations.**  
(9 VAC 5-80-110 B)
2. Because all combustion units are on a common fuel gas system, SO<sub>2</sub> emissions shall be monitored and estimated using the H<sub>2</sub>S CEM required for those combustion sources subject to 40 CFR Subpart J (see Subsection E of this permit). Should the H<sub>2</sub>S CEM not be available to monitor H<sub>2</sub>S and estimate SO<sub>2</sub> emissions, then emissions for the non-NSPS furnaces shall be monitored by fuel gas H<sub>2</sub>S analysis at a frequency of once per 8-hour shift. One analysis is acceptable for all furnaces on any common fuel gas system. Performance evaluations for the CEM shall use Performance Specification 7. Method **11** shall be used for conducting the relative accuracy evaluations. Should any of the combustion sources be directly supplied with 100% natural gas, monitoring of H<sub>2</sub>S will not be required.  
(9 VAC 5-80-110 E, 40 CFR 60.105(a)(3) and (4)(i) through (iii), 40 CFR 60.13(c), and Condition 15 of the 9/28/90 permit)
3. The permittee shall monitor opacity from the Crude Atmospheric/CO Furnace **B-101**, and the Crude Vacuum Furnace **B-102** using the Lear Siegler or other equivalent **continuous opacity monitor (COM)**.

(9 VAC 5-80-110 E)

4. The permittee shall perform an opacity evaluation of the Coker Furnace BA-101 stack and of the common stack of Furnaces F-302A/B and F-305/6 once per month using EPA Method 9 (reference 40 CFR 60, Appendix A) for a period of at least 6 minutes. If the initial 6-minute observation yields an opacity of less than 50% of the applicable opacity limitation, then no further action is required and the results shall be logged in a logbook. If the initial 6-minute observation yields an opacity of greater than 50% of the applicable opacity limitation, then the permittee shall perform an 18-minute Method 9 opacity evaluation consisting of not less than three 6-minute observations. If the 18-minute Method 9 evaluation yields an average (average of the three 6-minute observations) opacity of less than 50% of the applicable opacity limitation, then no further action is required and the results shall be logged in a logbook. If the 18-minute Method 9 evaluation yields an average opacity of greater than 50% of the applicable opacity limitation, then the permittee shall perform a 1-hour EPA Method 9 evaluation consisting of not less than ten 6-minute observations and log the results in a logbook. The required logbooks shall be maintained on site for the most recent 5-year period. (9 VAC 5-80-110 E)
5. DEQ has determined that no violation of the Standard for Visible Emissions for Crude operations, as determined by EPA Method 9, will occur at COM recorded values up to 30 percent opacity. COM values up to 30 percent opacity demonstrate compliance with the visual 20 percent opacity limitation. (9 VAC 5-80-110 B and 9 VAC 5-40-940.B)

**d. Reporting**

1. The permittee shall submit a semi-annual emission report to the Director, Tidewater Regional Office. The report shall cover the most recent 6 calendar month period and shall be initially submitted 6 months following permit issuance and every 6 months thereafter. The report shall also contain results of monthly calculations showing emissions above emission limits on a 12-month average basis for the 12-calendar month period preceding submittal of the report and periods when the type of fuel used is not refinery fuel gas. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit. (9 VAC 5-80-110 F)
2. The permittee shall provide a semi-annual opacity report to the Director, Tidewater Regional Office containing all occurrences, by exception, during the previous six calendar months of excess emissions greater than 30 percent opacity as determined by the COM for the Crude operations. The initial report shall be submitted 6 months following the date of issuance of this permit and every 6 months thereafter. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit. (9 VAC 5-80-110 F)
3. The permittee shall submit a semi-annual opacity report to the Director, Tidewater Regional Office for the Coker Furnace BA-101. The initial report shall be submitted 6 months following the date of issuance of this permit and every 6 months thereafter and shall include any periods when Method 9 opacity evaluations indicated an exceedance of opacity limitations. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit. (9 VAC 5-80-110 F)
4. The permittee shall submit a semi-annual opacity report to the Director, Tidewater Regional Office for Furnaces F-302A/B and F-305/6. The initial report shall be submitted 6 months following the date of issuance of this permit and every 6 months thereafter and shall include any periods when Method 9 opacity evaluations indicated an exceedance of opacity limitations. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit. (9 VAC 5-80-110 F)

**e. Recordkeeping**

1. The permittee shall maintain records of calculations used to demonstrate compliance with the CO, NO<sub>x</sub>, PM, PM-10, **VOC**, and TSP emission limitations. The permittee shall maintain records of CEM data for SO<sub>2</sub> emission limitations such that the permittee can demonstrate, upon request, compliance with the emission limits for the combustion sources for any 12-month rolling period. Such records shall be maintained on site for the most recent **3-year period**.  
(9 VAC 5-80-110 F)
2. The permittee shall maintain a logbook **or equivalent record** on site which includes all periods of down time for the SO<sub>2</sub> CEM, periods of 100% natural gas usage for each of the combustion units, and any fuel gas H<sub>2</sub>S analyses required by **Condition II.C.1.c.2.** of this permit for the non-NSPS furnaces. In addition, the permittee shall maintain records of any CEM performance and relative accuracy evaluations required by **Condition II.C.1.c.2.** of this permit. Such **records** shall be maintained on site for the most recent 5-year period.  
(9 VAC 5-80-110 F)
3. **The permittee shall keep COM records and any records of Method 9 opacity determinations for Crude operations on site for inspection by DEQ for the most recent 2-year period.**  
(9 VAC 5-80-110 F)
4. **The permittee shall maintain a logbook or equivalent record on site containing records of all opacity evaluations for the Coker Furnace BA-101, Furnace F-302A/B, and Furnace F-305/6. The logbook or equivalent record shall be maintained on site and shall be current for the most recent 5-year period.**  
(9 VAC 5-80-110 F)

**2. FCCU**

**a. Limitations**

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
FCCU	Regenerator vent through CO Furnace	PM	No discharge into the atmosphere from any petroleum catalytic cracking unit any particulate emissions in excess of 0.05% of the rate of catalyst recirculation within the unit, rolling 12-month basis.	9 VAC 5-40-1360. Standard for particulate matter.
FCCU	Regenerator vent through CO Furnace	SO <sub>2</sub>	No discharge into the atmosphere from any FCCU of any sulfur dioxide emissions in excess of an in-stack concentration of 2,000 ppm by volume at point of atmospheric discharge, rolling 12-month basis (excludes SO <sub>2</sub> from fuel gas in F20 & F21).	9 VAC 5-40-1370. Standard for sulfur dioxide.
FCCU	FCCU regenerator	OPACITY	COM measured opacity of 30% or less will not cause a violation of the Standard for Visible Emissions	9 VAC 5-40-940.B. Standard for Opacity
FCCU	FCCU regenerator	OPACITY	Visible emission not to exceed 20% opacity by EPA method 9 except for one six minute period in any one hour of not more than 60%	9 VAC 5-40-940.B. Standard for Opacity

(9 VAC 5-40-1360, 9 VAC 5-40-1370, and 9 VAC 5-80-110 B)

**b. Testing**

1. No specific testing requirements are imposed on the FCCU for the applicable requirements in Table II.C.2.a. Compliance with each limitation shall be based on the monitoring, reporting, and recordkeeping provisions of this section.  
(9 VAC 5-80-110.B)

**c. Monitoring**

1. The permittee shall perform a reconciliation of catalyst flow rate, addition rate, and estimated loss in product on a monthly basis to monitor PM emissions from the FCCU. The permittee shall monitor FCCU feed sulfur content once daily for determination of SO<sub>2</sub> concentration based on empirical correlation **or determine SO<sub>2</sub> concentration using an SO<sub>2</sub> continuous emission monitor (CEM).** The permittee shall utilize such data to calculate emissions of PM and SO<sub>2</sub> from the FCCU monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-110 E)
2. **The permittee shall monitor opacity from the FCCU regenerator using the Lear Siegler or other equivalent continuous opacity monitor (COM).**  
(9 VAC 5-80-110 E)
3. DEQ has determined that no violation of the Standard for Visible Emissions for FCCU operations, as determined by EPA Method 9, will occur at COM recorded values up to 30 percent opacity. COM values up to 30 percent opacity demonstrate compliance with the visual 20 percent opacity limitation.  
(9 VAC 5-80-110.B and 9 VAC 5-40-940.B)

**d. Reporting**

1. The permittee shall provide a semi-annual excess emission report to the Director, Tidewater Regional Office. Each report shall cover the most recent six calendar months and shall include emission calculations for periods when PM losses exceed 0.05% of catalyst recirculation rate and SO<sub>2</sub> emissions are in excess of 2000 ppm by volume at point of discharge on a 12-month average basis. The initial report shall be submitted 6 months following permit issuance and every 6 months thereafter. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit.  
(9 VAC 5-80-110 F)
2. **The permittee shall provide a semi-annual report to the Director, Tidewater Regional Office containing all occurrences, by exception, during the previous six calendar months of excess emissions greater than 30 percent opacity as determined by the COM for the FCCU operations. The initial report shall be submitted 6 months following the date of issuance of this permit and every 6 months thereafter. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit.**  
(9 VAC 5-80-110 F)

**e. Recordkeeping**

1. The permittee shall maintain monthly calculations and associated data used to demonstrate compliance with the PM loss and SO<sub>2</sub> emission limitations such that the permittee can demonstrate, upon request, compliance with the FCCU emission limits for any 12-month rolling period. These records shall be maintained on site for the most recent 5-year period.  
(9 VAC 5-80-110 F)

2. The permittee shall keep COM records and any records of Method 9 opacity determinations for FCCU operations on site for inspection by DEQ for the most recent 2-year period.  
(9 VAC 5-80-110 F)

### 3. Coke Crusher

#### a. Limitations

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
COKER	Coke Crusher	PM	Wet suppression required on feed coke and hopper, crusher discharge, and screening	Permit to Construct and Operate, 12/26/1990, Conditions 3-5 (based on 9 VAC 5-80-10)
COKER	Coke Crusher	TSP	3.4 lbs/hour, 4.2 tons/year, rolling 12-month basis	Permit to Construct and Operate, 12/26/1990, Condition 8
COKER	Coke Crusher	PM10	1.3 lbs/hour, 1.6 tons/year, rolling 12-month basis	Permit to Construct and Operate, 12/26/1990, Condition 8
COKER	Coke Crusher	Fugitive Dust	Wet suppress or other methods to prevent fugitive dust emissions from open storage stockpiles, conveying equipment and yard traffic	Permit to Construct and Operate, 12/26/1990, Specific Condition 6
COKER	Coke Crusher	Operation	600,000 tons per year consumption	Permit to Construct and Operate, 12/26/1990, Specific Condition 7
COKER	Coke Crusher	OPACITY	5% opacity limit on the coke crusher, conveying of coke, and screening of crushed coke	Permit to Construct and Operate, 12/26/1990, Specific Condition 9 (Based on 9 VAC 5-80-10)

1. Particulate emissions from the initial loading of the hopper shall be controlled by pre-wetting the coke and wet suppression on the feed hopper as necessary.  
(9 VAC 5-80-110 B, 9 VAC 5-80-10 F, and Specific Condition 3 of the 12/26/90 permit)
2. Particulate emissions from the coke crusher discharge, and screening of crushed coke shall be controlled by wet suppression or other reasonable methods, as necessary, so as to prevent particulate matter from becoming airborne.  
(9 VAC 5-80-110 B, 9 VAC 5-80-10 F, and Specific Conditions 4 and 5 of the 12/26/90 permit)
3. Pre-wetting and wet suppression shall be applied as necessary to avoid visible emissions. The processing of wet coke and/or the lack of any visible emissions shall preclude the need for pre-wetting or wet suppression. Operation of wet suppression is not required during freezing weather conditions. Fugitive dust emissions from open storage stockpiles, conveying equipment, and yard traffic shall be controlled by wet suppression or other reasonable methods so as to prevent particulate matter from becoming airborne.  
(9 VAC 5-80-110 B, 9 VAC 5-80-10 F, and Specific Conditions 3 through 6 of the 12/26/90 permit)
4. Compliance with the above wet suppression requirements shall demonstrate compliance with the coke crusher TSP and PM-10 emission limits. The throughput of coke in the coke crusher shall not exceed 600,000 tons per year calculated monthly as the sum of each consecutive 12-month period.

Records of quantity of coke crushed shall be kept based on the weight of the crushed coke shipped.

(9 VAC 5-80-110 B and Specific Condition 7 of the 12/26/90 permit)

5. Compliance with the wet suppression requirements shall demonstrate compliance with the 5% opacity limit. The permittee shall not exceed the operating limits outlined in Table II.C.3.a. (9 VAC 5-80-110 B and Specific Condition 9 of the 12/26/90 permit)

**b. Testing**

1. No specific testing requirements are imposed on the Coke Crusher for these applicable requirements. Compliance with each limitation shall be based on adherence to the wet suppression provisions of this section.  
(9 VAC 5-80-110 B)

**c. Monitoring**

1. The presence of any visible emissions from the operation of the Coke Crusher shall prompt the use of wet suppression except as otherwise specified by this permit. Operating personnel will verify daily the presence or absence of visible emissions and whether wet suppression is used.  
(9 VAC 5-80-110 E)
2. The visible emissions monitoring requirements of Specific Condition II.C.3.c.1 of this document shall be considered adequate monitoring to determine compliance with fugitive dust and opacity limitations.  
(9 VAC 5-80-110 E and Specific Condition 7 of the 12/26/90 permit)

**d. Reporting**

1. The permittee shall provide a semi-annual report to the Director, Tidewater Regional Office containing, by exception, periods when required wet suppression was not used. The initial report shall be submitted 6 months following the date of issuance of this permit and every 6 months thereafter. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit.  
(9 VAC 5-80-110 F)
2. The permittee shall provide a semi-annual monitoring report to the Director, Tidewater Regional Office containing, by exception, periods when the quantity of coke crushed was greater than 600,000 tons per year on a 12-month rolling sum basis. The initial report shall be submitted 6 months following the date of issuance of this permit and every 6 months thereafter. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit. The reporting requirements of Specific Condition II.C.3.d.1 of this document shall be considered adequate to comply with fugitive dust and opacity reporting requirements.  
(9 VAC 5-80-110 F)

**e. Recordkeeping**

1. The permittee shall keep documentation of results of visible emissions evaluations and loss of wet suppression required on feed coke and hopper, the crusher discharge, and screening activities. The permittee shall keep records of periods when the Coke Crusher was operated without required wet suppression. Such records shall contain a brief explanation of the existing weather conditions (i.e., rain, extreme cold, etc.) or any malfunction (leak, faulty pump, etc.) which precluded the use of wet suppression and shall be kept on-site for the most recent 5-year period.  
(9 VAC 5-80-110 F)
2. The permittee shall maintain documentation of the quantity of coke crushed per month as determined by the weight of crushed coke shipped such that the permittee can demonstrate, upon request, compliance with the operational capacity limit for any 12-month rolling period. The

recordkeeping requirements of Specific Condition II.C.3.e.1 of this document shall be considered adequate to comply with fugitive dust and opacity recordkeeping requirements.  
(9 VAC 5-80-110 F)

#### 4. SRU

##### a. Limitations

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
SRU	SRU Incinerator Stack	SO <sub>2</sub>	8000 ppm discharge concentration, rolling 12-month basis	9 VAC 5-40-3000. Standard for sulfur dioxide.
SRU	SRU Incinerator Stack	SO <sub>2</sub>	415 lbs/hour if sulfur production rate is at 50 tons/year or less on an hourly basis, rolling 12-month basis	9 VAC 5-40-3000. Standard for sulfur dioxide.
SRU	SRU Incinerator Stack	SO <sub>2</sub>	830 lbs/hour if sulfur production rate is >50 tons/day and <= 100 tons/day on an hourly basis, rolling 12-month basis	9 VAC 5-40-3000. Standard for sulfur dioxide.
SRU	SRU Incinerator Stack	OPACITY	20% opacity except for one 6-minute period in any one hour not to exceed 60% opacity	9 VAC 5-40-80. Standard for opacity.

(9 VAC 5-40-3000 and 9 VAC 5-80-110 B)

##### b. Testing

- No specific testing requirements are imposed on the SRU for these applicable requirements, except as detailed in the Monitoring section. Compliance with each limitation in Table C.4.a. shall be based on compliance with the monitoring, recordkeeping, and reporting provisions of this section.  
(9 VAC 5-80-110 B)

##### c. Monitoring

- The permittee shall monitor **daily** the operating conditions and process data necessary to calculate the concentration of SO<sub>2</sub> in the SRU Incinerator Stack at the point of discharge. **The process data to be monitored shall include the catalytic reactor bed temperatures, tail gas H<sub>2</sub>S:SO<sub>2</sub> ratio, and condenser outlet temperatures.** The permittee shall calculate the concentration of SO<sub>2</sub> in the SRU Incinerator Stack, the maximum rate of SO<sub>2</sub> emissions in lbs/hour, and the quantity of elemental sulfur produced monthly. Should the permittee choose to do so, or be unable to monitor operating conditions and process data necessary to calculate the above values, then the permittee shall conduct an annual performance stack test to determine the concentration of SO<sub>2</sub> at the point of discharge, SO<sub>2</sub> emission rate in lbs/hour, and the quantity of sulfur produced.  
(9 VAC 5-80-110 E)

2. The permittee shall perform an opacity evaluation of the SRU Incinerator stack once per month using EPA Method 9 (reference 40 CFR 60, Appendix A) for a period of at least 6 minutes. If the initial 6-minute observation yields an opacity of less than 50% of the applicable opacity limitation, then no further action is required and the results shall be logged in a logbook. If the initial 6-minute observation yields an opacity of greater than 50% of the applicable opacity limitation, then the permittee shall perform an 18-minute Method 9 opacity evaluation consisting of not less than three 6-minute observations. If the 18-minute Method 9 evaluation yields an average (average of the three 6-minute observations) opacity of less than 50% of the applicable opacity limitation, then no further action is required and the results shall be logged in a logbook. If the 18-minute Method 9 evaluation yields an average opacity of greater than 50% of the applicable opacity limitation, then the permittee shall perform a 1-hour EPA Method 9 evaluation consisting of not less than ten 6-minute observations and log the results in a logbook. The results of the monthly opacity evaluations shall be recorded in a logbook or equivalent record. The logbooks shall be maintained on site for the most recent 5-year period.  
(9 VAC 5-80-110 E)

**d. Reporting**

1. If the permittee chooses to monitor the operating conditions and process data, then the permittee shall provide a semi-annual **monitoring** report to the Director, Tidewater Regional Office. **The report shall** contain periods when the concentration of SO<sub>2</sub> at the point of discharge was greater than 8,000 ppm on a 12-month rolling average basis. The report shall also include periods when the SO<sub>2</sub> emission rate in lbs/hour exceeded the limitations in Table II.C.4.a. and the corresponding daily sulfur production rates. The initial report shall be submitted 6 months following the date of issuance of this permit and every 6 months thereafter. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit.  
(9 VAC 5-80-110)
2. The permittee shall submit a semi-annual opacity report to the Director, Tidewater Regional Office for the SRU Incinerator. The initial report shall be submitted 6 months following the date of issuance of this permit and every 6 months thereafter and shall include any periods when Method 9 opacity evaluations indicated an exceedance of opacity limitations. The report shall be filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit.  
(9 VAC 5-80-110 F)
3. Should the permittee choose to monitor with an annual performance stack test, then all tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and 9 VAC 5-60-30 of State Regulations, and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410 and 9 VAC 5-60-70. The details of the tests are to be arranged with the Director, Tidewater Regional Office. The permittee shall submit a test protocol at least thirty (30) days prior to testing. Four (4) copies of the test results shall be submitted to the Director, Tidewater Regional Office within 45 days after test completion.  
(9 VAC 5-80-110 F)

**e. Recordkeeping**

1. The permittee shall maintain documentation of all monthly emission calculations and process data necessary or annual performance stack test reports, to demonstrate compliance with this permit limitation. Such documentation shall be maintained on site for the most recent 5-year period.  
(9 VAC 5-80-110 F)
2. The permittee shall maintain a logbook or equivalent record on site containing records of all opacity evaluations for the SRU. The logbook or equivalent record shall be maintained on site and shall be current for the most recent 5-year period.  
(9 VAC 5-80-110 F)

**D. NSPS Subpart VV, 40 CFR 60- Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry; and Subpart GGG, 40 CFR 60 - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries**

**a. Limitations - Ether Unit and Crude Unit Compressors**

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
ETHER	Ether Unit	VOC	20.8 tons per year, rolling 12-month basis	Permit to Construct and Operate, 8/19/98, Condition 10.
CRUDE UNIT	Compressors J-135A and J-135B	VOC	1.4 tons per year (combined), rolling 12-month basis	Permit to Construct and Operate, 8/19/98, Condition 11.
ULTRAFORMER	Depentanizer distillation column	VOC	VOC controls as specified in 40 CFR 60.592	40 CFR 60.592, Subpart GGG and Permit to Construct and Operate, 9/28/90, Condition 6.

(9 VAC 5-50-260 and 9 VAC 5-80-110 B)

- The permitted facility is to be operated in compliance with the applicable Federal emission requirements under 40 CFR 60, Subpart GGG and Subpart VV. Compliance with 40 CFR 60.482-1 to 40 CFR 60.482-10 shall be determined by review of records and reports, performance test results, and inspection using the methods and procedures specified in 40 CFR 60.485.  
(9 VAC 5-40-400, 9 VAC 5-170-160, 40 CFR 60.482-1 through 60.482-10, and Specific Condition 3 of the 8/19/98 permit)
- Volatile organic compound emissions from the addition of the depentanizer distillation column (ultraformer) and associated hardware to the ultraforming process shall be controlled as specified in 40 CFR 60.592, Subpart GGG.  
(9 VAC 5-80-10 F, 40 CFR 60.592 Subpart GGG, 40 CFR 60.482-1 through 60.482-10 Subpart VV, and Specific Condition 6 of the 9/28/90 permit)
- Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm volatile organic compounds (VOC) above background as determined by methods specified in 40 CFR 60.485(c). After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as soon as practicable but no later than five (5) calendar days after the pressure release. As an alternative, the permittee may elect to comply with the provisions of 40 CFR 60.482-4(c) and 60.482-10.  
(9 VAC 5-80-10 H, 9 VAC 5-50-260, 9 VAC 5-50-400, and Specific Condition 6 of the 8/19/98 permit)
- Flares used to comply with the standards of 40 CFR 60.482-10 shall comply with the requirements of 40 CFR 60.18.  
(9 VAC 5-80-10 H, 9 VAC 5-50-400, and Specific Condition 9 of the 8/19/98 permit)

**b. Testing**

1. No specific testing requirements are imposed on the Ether Unit or Crude Unit compressors for these applicable requirements, except as detailed in the Monitoring section. Compliance with each limitation in Table II.C.5.a shall be based on compliance with the monitoring, recordkeeping, and reporting provisions of this section.  
(9 VAC 5-80-110 B)

**c. Monitoring**

1. Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b) as required by 40 CFR 60.482-2(a)(1), except as provided in 40 CFR 60.482-1(c) and paragraphs (d), (e), and (f) of 40 CFR 60.482-2. Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal as required by 40 CFR 60.482-2(a)(2).  
(9 VAC 5-80-10 H, 9 VAC 5-50-260, 9 VAC 5-50-400, and Specific Condition 4 of the 8/19/98 permit)
2. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere as required by 40 CFR 60.482-3(a), except as provided in 40 CFR 60.482-1(c) and paragraphs (h) and (i) of 40 CFR 60.482-3. Each compressor shall be monitored as described in 40 CFR 60.482-3(e) through (g), as applicable.  
(9 VAC 5-80-10 H, 9 VAC 5-50-260, 9 VAC 5-50-400, and Specific Condition 8 of the 8/19/98 permit)
3. Each valve in gas/vapor service or in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b) as required by 40 CFR 60.482-7(a) and shall comply with paragraphs (b) through (e) of 40 CFR 60.582-7, except as provided in paragraphs (f), (g), and (h) of 40 CFR 60.482-7, 40 CFR 60.483-1, 40 CFR 60.483-2, and 40 CFR 60.482-1(c).  
(9 VAC 5-80-10 H, 9 VAC 5-50-260, 9 VAC 5-50-400, and Specific Condition 5 of the 8/19/98 permit)
4. Pumps and valves in heavy liquid service, pressure relief devices in light liquid service, and flanges and other connectors shall be monitored within five (5) calendar days by the method specified in 40 CFR 60.485(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method as required by 40 CFR 60.482-8(a). The equipment listed above shall be monitored as described in 40 CFR 60.482-8(b) through (d), as applicable.  
(9 VAC 5-80-10 H, 9 VAC 5-50-260, 9 VAC 5-50-400, and Specific Condition 7 of the 8/19/98 permit)

**d. Reporting**

1. The permittee shall submit reports of all emission data and operating parameters to demonstrate compliance in accordance with NSPS Subpart GGG and Subpart VV, 40 CFR 60.487. The reports shall be made for six-month periods following the initial compliance date and shall be submitted to the Director, Tidewater Regional Office.  
(9 VAC 5-50-50 and Specific Condition 13 of the 8/19/98 permit)

**e. Recordkeeping**

1. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit and with 40 CFR 60.590 Subpart GGG and 40 CFR 60.482-1 to 40 CFR 60.487 Subpart VV. These records shall include:
  - (a) Annual VOC emissions from the Ether Unit and compressors based on component counts, service, and type, calculated monthly as the sum of each consecutive 12-month period.
  - (b) Records in accordance with the recordkeeping requirements of 40 CFR 60.486.
  - (c) **Monitoring records as required by Specific Conditions II.D.c.1, 2, 3, and 4.**These records shall be available on-site for inspection by DEQ and shall be current for the most recent 5-year period.  
(9 VAC 5-50-50 and Specific Condition 12 of the 8/19/98 permit)
2. **In order to minimize the duration and frequency of excess emissions due to malfunction of air pollution control equipment associated with the Ether Unit, the permittee shall:**
  - (a) **Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance. These records shall be maintained on site for a period of 5 years and shall be made available to DEQ personnel upon request; and**
  - (b) **Maintain an inventory of spare parts that are needed to minimize the duration of air pollution control equipment breakdowns.****(Specific Condition 17 of the 8/19/98 permit)**
3. **The permittee shall have available written operating procedures for all air pollution control equipment associated with the Ether Unit. Operators shall be trained in the proper operation of all such equipment and shall be familiar with the written operating procedures. These procedures shall be based on the manufacturer's recommendations, at minimum. The permittee shall maintain records of training provided including names of trainees, date of training, and nature of training.**  
**(Specific Condition 18 of the 8/19/98 permit)**

## E. NSPS Subpart J - SO<sub>2</sub> Emissions from Fuel Gas Combustion Units

### a. Limitations

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
NDU/UF	Furnace F302 A&B	SO <sub>2</sub> via H <sub>2</sub> S	0.10 grains H <sub>2</sub> S/DSCF of fuel gas	40 CFR 60.104(a)(1), Standards for Sulfur Oxides.
NDU/UF	Furnace F-305/6	SO <sub>2</sub> via H <sub>2</sub> S	0.10 grains H <sub>2</sub> S/DSCF of fuel gas	40 CFR 60.104(a)(1), Standards for Sulfur Oxides.
CRUDE	Crude Atmospheric / CO Furnace <b>B-101</b>	SO <sub>2</sub> via H <sub>2</sub> S	0.10 grains H <sub>2</sub> S/DSCF of fuel gas	40 CFR 60.104(a)(1), Standards for Sulfur Oxides.
CRUDE	Crude Vacuum Furnace <b>B-102</b>	SO <sub>2</sub> via H <sub>2</sub> S	0.10 grains H <sub>2</sub> S/DSCF of fuel gas	40 CFR 60.104(a)(1), Standards for Sulfur Oxides.
COKER	Coker Furnace BA-101	SO <sub>2</sub> via H <sub>2</sub> S	0.10 grains H <sub>2</sub> S/DSCF of fuel gas	40 CFR 60.104(a)(1), Standards for Sulfur Oxides.

- The permittee shall comply with 40 CFR 63 Subpart J as it pertains to the combustion sources in the above table. The permittee shall not burn in the above combustion devices any fuel gas that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 230 mg/dscm (0.10 gr/dscf or 160 ppm) **based on a three-hour rolling average**. This limitation does not apply to the combustion of natural gas directly fired to any of the above furnaces. Compliance will be determined by the monitoring methods prescribed in 40 CFR 60.105(a)(4).  
(40 CFR 60.104(a)(1))

### b. Testing

- When conducting required performance tests, such as required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A or other methods and procedures as specified in 40 CFR 60.106, except as provided in 40 CFR 60.8(b). The permittee shall perform testing as required under 40 CFR 60.106(e), as appropriate.  
(40 CFR 60.106(a) and (e))

### c. Monitoring

- The permittee shall monitor SO<sub>2</sub> emissions for all equipment in the above table by the use of an instrument for continuously monitoring and recording the concentration (dry basis) of H<sub>2</sub>S in fuel gases before being burned in any **applicable** fuel gas combustion device. The span value for the H<sub>2</sub>S CEM shall be 425 mg/dscm H<sub>2</sub>S.  
(40 CFR 60.105(a)(4) and 60.105(a)(4)(i))
- Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location if monitoring at this location accurately represents the concentration of H<sub>2</sub>S in the fuel gas being burned.  
(40 CFR 60.105(a)(4)(ii))

**d. Reporting & Recordkeeping**

1. The permittee shall comply with the reporting and recordkeeping requirements in 40 CFR 60.107 and 40 CFR 60 Subpart A, as appropriate. Excess emission **reports**, monitoring system performance reports, and/or summary report forms as required under 40 CFR 60.7(c) shall be submitted semi-annually. **The applicable reports shall be** filed in accordance with the reporting requirements in the Facility-Wide and General Conditions of this permit.  
(40 CFR 60.107 and 40 CFR 60 Subpart A)

**F. NSPS Subparts K: Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978; and Kb: Volatile Organic Liquid Storage Vessels For Which Construction, Reconstruction, Or Modification Commenced After July 23, 1984**

**a. Limitations**

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
BLEND/TANK	Tanks 23 (old Tank 85), 24 (old Tank 86), 907 (old Tank 87), 908 (old Tank 88), 909 (old Tank 89), 910 (old Tank 90), 911 (old Tank 91), 912 (old Tank 92), and 913 (old Tank 93)	VOC	Equipment Standard: Floating Roof and primary/secondary seal requirements	40 CFR 60.112b(a)(2) Standard for volatile organic compounds (VOC). SUBPART Kb Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984
BLEND/TANK	Tank 110	VOC	Recordkeeping provisions: Records of petroleum liquid stored, the period of storage, and the maximum true vapor pressure of the liquid during the respective storage period	40 CFR 60.112 Standard for volatile organic compounds (VOC). Subpart K Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978
BLEND/TANK	Tanks 23 and 24 (old Tanks 85 and 86)	VOC	6.1 lbs/hour* and 27.8 tons per year VOC (combined), 12-month rolling average	9 VAC 5-50-260 and Specific Condition 5 of the 2/25/97 permit
BLEND/TANK	Tanks 907 and 908 (old Tanks 87 and 88)	VOC	1.9 lbs/hour* and 8.4 tons per year VOC (combined), 12-month rolling average	9 VAC 5-50-260 and Specific Condition 6 of the 2/25/97 permit
BLEND/TANK	Tanks 909, 910, 911, 912, and 913 (old Tanks 89, 90, 91, 92, and 93)	VOC	4.9 lbs/hour* and 21.5 tons per year VOC (combined), 12-month rolling average	9 VAC 5-50-260 and Specific Condition 7 of the 2/25/97 permit

(\*) Compliance with hourly VOC limitations for Tanks 23, 24, 907, 908, 909, 910, 911, 912, and 913 (old Tanks 85 through 93) shall be assured based on compliance with the control requirements for external floating roof tanks in 40 CFR 60.112b.  
(Specific Conditions 5, 6, and 7 of the 2/25/97 permit)

1. Any existing refinery storage vessel that is subject to the provisions of 40 CFR Part 60 Subpart Kb, 40 CFR Part 61 Subpart FF, 40 CFR Part 63 Subpart CC, and 9 VAC 5-40-5220(B) is required to comply only with the requirements of 40 CFR Part 60 Subpart Kb.  
(9 VAC 5-80-110)

2. Should geodesic domes or any other form of fixed roof be installed on the above external floating roof tanks at any time after this permit is issued, such tanks will become internal floating roof tanks and will comply with the appropriate standards for internal floating roof tanks in 40 CFR 60 Subpart Kb. Such an addition shall not require a modification of this permit or require a construction permit. (40 CFR 63.640(n)(1), 40 CFR 60.112b(a)(1), and 9 VAC 5-80-110 B)
3. Each external floating roof tank shall comply with the volatile organic compound emission standards in 40 CFR 60.112b(a)(2). An external floating roof is any pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device shall consist of two seals, one above the other. The lower seal is the primary seal and the upper seal is referred to as the secondary seal. The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in 40 CFR 60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall. The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in 40 CFR 60.113b(b)(4). (40 CFR 60.112b(a)(2) and Specific Condition 3 of the 2/25/97 permit)

**b. Testing**

1. The permittee shall perform hydrostatic testing as required under 40 CFR 60.113b(b)(2). The permittee shall measure the gaps between the tank wall and the primary seal following the measurement procedures outlined in 40 CFR 60.113b(b)(2) through (6) within 60 days of the initial fill with volatile organic liquid and at least once every 5 years thereafter. If any tank ceases to store volatile organic liquids for a period of 1 year or more, subsequent introduction of volatile organic liquids into the vessel shall be considered an initial fill. (40 CFR 60.113b(b)(1)(i) and 60.113b(b)(2))
2. The permittee shall measure the gaps between the tank wall and the secondary seal following the measurement procedures outlined in 40 CFR 60.113b(b)(2) through (6) within 60 days of the initial fill with volatile organic liquid and at least once per year thereafter. If any tank ceases to store volatile organic liquids for a period of 1 year or more, subsequent introduction of volatile organic liquids into the vessel shall be considered an initial fill. (40 CFR 60.113b(b)(1)(ii) and 40 CFR 60.113b(b)(1)(iii))
3. If the seal measurements required above do not meet the requirements provided in 40 CFR 60.113b(b)(4), the permittee shall make necessary repairs to the seals such that they meet the requirements within 45 days of identification in any inspection or empty the storage vessel of volatile organic liquids unless granted a 30-day extension as provided in 40 CFR 60.113b(b)(4)(iii). (40 CFR 60.113b(b)(4))

**c. Monitoring**

1. The permittee shall perform monitoring of operations as required under 40 CFR 60.116b(c) and (e). For each vessel, the permittee shall maintain a record of the type of volatile organic liquid stored, the period of storage, and the maximum true vapor pressure of each volatile organic liquid during its respective storage period. The permittee may use available data on the storage temperature of the volatile organic liquid to determine the maximum true vapor pressure by following the procedures provided in 40 CFR 60.116b(e)(1) through (3). (40 CFR 60.116b(c) and (e))

2. The permittee shall inspect each external floating roof storage tank in accordance with 40 CFR 60.113b(b)(6) each time the vessel is emptied and degassed. The permittee shall notify the Director, Tidewater Regional Office, in writing at least 30 days prior to filling or refilling each external floating roof storage tank in accordance with 40 CFR 60.113b(b)(6)(ii). (9 VAC 5-80-10 F, 40 CFR 60.113b(b)(6), and Specific Condition 14 of the 2/25/97 permit)

**d. Reporting & Recordkeeping**

1. The permittee shall submit reports and maintain records as required in 40 CFR 60.115b(b) and in the testing requirements in 40 CFR 60.113b(b), as appropriate. The permittee shall submit a report to the Director, Tidewater Regional Office, within 60 days of performing any seal gap measurements. The report shall contain, at minimum, the date of the measurement, the raw data obtained in the measurement, and any associated seal measurement calculations. (40 CFR 60.113b(b) and 40 CFR 60.115b(b)(2))
2. The permittee shall maintain records of each gap measurement performed. Each record shall identify the storage vessel in which the measurement was performed and shall include, at minimum, the date of the measurement, the raw data obtained in the measurement, and the associated seal measurement calculations. (40 CFR 60.113b(b), 40 CFR 60.115b(b)(3) and Specific Condition 13 of the 2/25/97 permit)
3. If any seal gap measurement exceeds the limitations specified in 40 CFR 60.113b(b)(4), the permittee shall submit a report to the Director, Tidewater Regional Office, within 30 days of the inspection. The report shall identify the vessel and shall include, at minimum, the date of the measurement, the raw data obtained in the measurement, the associated seal measurement calculations, and the date the vessel was emptied or the repairs made and the date of repair. (40 CFR 60.113b(b)(4) and 40 CFR 60.115b(b)(4))
4. The permittee shall submit a semi-annual report to the Director, Tidewater Regional Office, which calculates annual emissions of volatile organic compounds in tons per year from Tanks 23 and 24 combined (old Tanks 85 and 86 combined), Tanks 907 and 908 combined (old Tanks 87 and 88 combined), and Tanks 909, 910, 911, 912, and 913 combined (old Tanks 89, 90, 91, 92, and 93 combined). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The permittee shall maintain records of the calculations for the most recent three-year period unless otherwise specified by DEQ. (9 VAC 5-50-50, 9 VAC 5-60-50, and Specific Condition 12 of the 2/25/97 permit)
5. The permittee shall keep records showing the dimensions of each external floating roof storage tank and an analysis showing the capacity of each storage vessel. These records shall be readily accessible and shall be kept for the life of each storage vessel in accordance with 40 CFR 60.116b(a) and (b). (9 VAC 5-80-10 F, 40 CFR 60.116b(a) and (b), and Specific Condition 15 of the 2/25/97 permit)
6. For Tank 110, the permittee shall maintain records of each petroleum liquid stored, the period of storage, and the maximum true vapor pressure of the liquid during the respective storage period as required by 40 CFR 60.113. (40 CFR 60.113(a))

## G. NSPS Subpart QQQ - Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

### a. Limitations

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
BLEND/TANK	Fixed Roof Tanks 22, 25, 54, and 55 (old Tanks 94, 95, 96, and 105)	VOC	Standards: Closed vent systems and control devices. Vapor recovery systems shall be designed and operated to recover VOC emissions vented to them with an efficiency of 95% or greater	40 CFR 60.692-5(b) and Specific Condition 4 of the 2/25/97 permit.
WWTP	Oil-Water Separators T-56, T-57, T-58, L-1638, L-1639, L-1640, L-1641, L-1642 (old Oil-Water Separators 97, 98, 99, 100, 101, 102, 103, and 104)	VOC	Standards: Closed vent systems and control devices. Vapor recovery systems shall be designed and operated to recover VOC emissions vented to them with an efficiency of 95% or greater	40 CFR 60.692-5(b) and Specific Condition 4 of the 2/25/97 permit.
WWTP	Sumps J-1527 and J-1596 (old Sumps 106 and 110)	VOC	Standards: Closed vent systems and control devices. Vapor recovery systems shall be designed and operated to recover VOC emissions vented to them with an efficiency of 95% or greater	40 CFR 60.692-5(b) and Specific Condition 4 of the 2/25/97 permit.
BLEND/TANK	Fixed Roof Tanks 22, 25, 54, and 55 (old Tanks 94, 95, 96, and 105)	VOC	1.7 lbs/hour and 1.5 tons per year (combined), 12-month rolling average	9 VAC 5-50-260 and Specific Condition 8 of the 2/25/97 permit.
WWTP	Oil-Water Separators T-56, T-57, and T-58 (old Oil-Water Separators 97, 98, and 99)	VOC	0.6 lbs/hour and 2.5 tons per year (combined), 12-month rolling average	9 VAC 5-50-260 and Specific Condition 9 of the 2/25/97 permit.
WWTP	IGF Oil-Water Separator L-1638 (old IGF Oil-Water Separator 100)	VOC	0.5 lbs/hour and 2.4 tons per year (combined), 12-month rolling average	9 VAC 5-50-260 and Specific Condition 10 of the 2/25/97 permit.
WWTP	CPI Oil-Water Separators L-1639, L-1640, L-1641, and L-1642 (old CPI Oil-Water Separators 101, 102, 103, and 104)	VOC	3.6 lbs/hour and 16.0 tons per year (combined), 12-month rolling average	9 VAC 5-50-260 and Specific Condition 11 of the 2/25/97 permit.

1. Volatile Organic Compound (VOC) emissions from each fixed roof tank (Tanks 22, 25, 54, and 55), each oil-water separator (Units T-56, T-57, T-58, L-1638, L-1639, L-1640, L-1641, L-1642), and each sump (Units J-1527 and J-1596) shall be controlled by carbon adsorption with an efficiency of 95% or greater as required by NSPS Subpart QQQ (40 CFR 60.692-5(b)). The carbon adsorption units shall be provided with adequate access for inspection. For the fixed roof Tanks 22, 25, 54, and 55, the control requirements of 40 CFR 60, Subpart QQQ, requiring a closed-vent control system shall

be deemed adequate to comply with the closed-vent system control requirements of 40 CFR 61.343(a)(1) and 40 CFR 61.349. Each oil-water separator shall be equipped and operated with a closed vent system with no detectable emissions in accordance with NSPS Subpart QQQ, 40 CFR 60.692-3(b) and 60.692-5(e)(1).  
(9 VAC 5-80-10 F, 40 CFR 60.692-5(b), and Specific Condition 4 of the 2/25/97 permit)

2. VOC emissions from the operation of the fixed roof tanks, oil-water separators, and sumps shall not exceed the limitations specified in Table II.G.a. Compliance with the control efficiency requirements of NSPS Subpart QQQ, 40 CFR 60.692-5(b) shall demonstrate compliance with the hourly VOC limitations in Table II.G.a.  
(9 VAC 5-80-10 F and Specific Conditions 8, 9, 10, and 11 of the 2/25/97 permit)
3. The permittee shall calculate annual VOC emissions from the units in Table II.G.a monthly as the sum of each consecutive 12-month period with the exception of oil-water separators L-1638, L-1639, L-1640, L-1641, and L-1642. The limitations for these oil-water separations are based on the maximum design capacities of the separators and 8,760 hours of operation per year. Compliance with the carbon adsorber control efficiency requirements of 40 CFR 60.692-5(b) shall demonstrate compliance with these limitations.  
(9 VAC 5-50-50, 9 VAC 5-60-50, and Specific Conditions 10, 11, and 12 of the 2/25/97 permit)

**b. Testing**

1. Before using any equipment installed in compliance with the provisions of 40 CFR 60.692-5, the permittee shall inspect such equipment for indications of potential emissions, defects, or other problems that may cause the requirements of this permit not to be met. Points of inspection shall include, but are not limited to, seals, flanges, joints, gaskets, hatches, caps, and plugs.  
(NSPS Subpart QQQ, 40 CFR 60.696(a))
2. Should DEQ request testing of the carbon adsorbers, the permittee shall be exempt from the General Provisions of 40 CFR 60.18 and shall use Method 21 to measure the emission concentrations of VOC, using 500 ppm as the no detectable emission limit. The instrument shall be calibrated each day before using following the calibration guidelines listed in 40 CFR 60.696(b)(1) and (2).  
(NSPS Subpart QQQ, 40 CFR 60.696(b))

**c. Monitoring**

1. A flow indicator shall be installed on the vent stream to each carbon adsorption unit as required by NSPS Subpart QQQ, 40 CFR 60.692-5(e)(3).  
(9 VAC 5-80-10 F, NSPS Subpart QQQ (40 CFR 60.692-3(a) and 60.692-5(e)), and Specific Condition 17 of the 2/25/97 permit)
2. The permittee shall inspect the closed vent systems on each oil-water separator initially and semi-annually using EPA Method 21 (reference 40 CFR 60, Appendix A) in accordance with NSPS Subpart QQQ, 40 CFR 60.692-5(e) and 60.696(b).  
(9 VAC 5-80-10 F, NSPS Subpart QQQ (40 CFR 60.692-5(e) and 60.696(b)), and Specific Condition 18 of the 2/25/97 permit)
3. The VOC concentration in the exhaust vent streams of each carbon adsorption unit shall be monitored on a regular schedule. The existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated as required by NSPS Subpart QQQ, 40 CFR 60.695(a)(3)(ii) and NESHAP Subpart FF, 40 CFR 61.354(d). Each carbon adsorption unit shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.  
(9 VAC 5-80-10 F, NSPS Subpart QQQ (40 CFR 60.695(a)(3)(ii)), NESHAP Subpart FF (40 CFR 61.354(d)), and Specific Condition 19 of the 2/25/97 permit)

**d. Reporting & Recordkeeping**

1. The permittee shall submit a report semi-annually to the Director, Tidewater Regional Office, which calculates annual emissions of volatile organic compounds in tons per year from fixed roof Tanks 22, 25, 54, and 55 (combined) and oil-water separators T-56, T-57, and T-58 (combined). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The permittee shall maintain records of the calculations for the most recent three-year period unless otherwise specified by DEQ.  
(9 VAC 5-50-50 and 9 VAC 5-60-50, and Specific Condition 12 of the 2/25/97 permit)
2. If a carbon adsorber that is not regenerated directly on-site in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time that the existing carbon in the control device is replaced with fresh carbon.  
(9 VAC 5-80-10 F, NSPS Subpart QQQ (40 CFR 60.697(f)(3)(x)(B)), and Specific Condition 20 of the 2/25/97 permit)
3. The permittee shall maintain documentation demonstrating that the carbon adsorption units will achieve 95% control efficiency during maximum loading conditions for the life of the facility in accordance with NSPS Subpart QQQ, 40 CFR 60.697(f)(3)(i).  
(9 VAC 5-80-10 F, NSPS Subpart QQQ (40 CFR 60.697(f)(3)(i)), and Specific Condition 21 of the 2/25/97 permit)
4. The permittee shall maintain records of the location, date, and corrective action taken for problems that could result in VOC emissions in accordance with NSPS Subpart QQQ, 40 CFR 60.697.  
(9 VAC 5-80-10 F, NSPS Subpart QQQ (40 CFR 60.697), and Specific Condition 22 of the 2/25/97 permit)

**H. NESHAP Subparts A and CC, 40 CFR 63 - National Emission Standards For Hazardous Air Pollutants From Petroleum Refineries**

The permittee shall comply with the provisions of 40 CFR 63 Subpart A and 40 CFR 63 Subpart CC, as appropriate. The following summarizes the requirements of 40 CFR 63 Subpart CC.

**1. Tanks**

**a. Limitations**

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
BLEND/TANK	Tanks 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 300, 301, 409, 600, 601, 602, 604, 605, 606, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 619, 620, 621, 622, 700, 701, 702	HAP	Equipment Standard: Tanks must be brought up to roof, fitting and seal requirements within 10 years of applicability date or at first degassing and cleaning.	40 CFR 63.646 Storage Vessel provisions. SUBPART CC National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries and 40 CFR 63.119 Storage Vessel provisions-reference control technology.

1. Any refinery Group 1 or Group 2 storage vessel that is also subject to the provisions of 40 CFR Part 60, Subpart Kb is required to comply only with the requirements of 40 CFR Part 60, Subpart Kb.  
(40 CFR 63.110(b) Subpart G and 63.640(n)(1), Subpart CC)

2. Any Group 1 storage vessel that is also subject to the provisions of 40 CFR Part 60, Subparts K or Ka is required to only comply with the provisions of 40 CFR 63, Subpart CC. Only Tank 110 has been identified at the time of permit issuance as so qualified.  
(40 CFR 63.640(n)(5), Subpart CC)
3. Compliance with the above requirements in Table II.H.1.a. for the storage vessels shall be proof of compliance with all other less-stringent applicable requirements, including 9 VAC 5-40-5220(B).  
(9 VAC 5-80-110)
4. At the time of permit issuance, only tank 409 is an internal floating roof tank. All other tanks listed above subject to 40 CFR 63 Subpart CC are external floating roof tanks. Should geodesic domes or other form of fixed roof be installed on the above external floating roof tanks at any time after issuance of this permit, such tanks will become internal floating roof tanks and shall comply with the appropriate standards for internal floating roof tanks in 40 CFR 63 Subpart CC if degassing and cleaning were required. Such an addition shall not require a modification of this permit or require a construction permit.  
(40 CFR 63.640(n) and 9 VAC 5-80-110 B)
5. The above limitations apply to the above existing Group 1 storage vessels. A Group 1 Storage Vessel means a storage vessel at an existing source that has a design capacity greater than or equal to 177 cubic meters, a stored-liquid maximum true vapor pressure greater than or equal to 10.4 kilopascals, a stored-liquid annual average true vapor pressure greater than or equal to 8.3 kilopascals, and an annual average HAP liquid concentration greater than 4 percent by weight total organic HAP. These requirements do not apply should a tank not store a liquid meeting these properties.  
(40 CFR 63.641, Subpart CC)
6. The permittee shall comply with the control technology requirements of 40 CFR 63.646 and 40 CFR 63.119, as appropriate, for the above existing Group 1 floating roof storage vessels at the first degassing and cleaning activity after August 18, 1998, or within 10 years **after** August 18, 1995, whichever is first.  
(40 CFR 63.646, Subpart CC)
7. **For each Group 1 storage vessel storing a liquid for which the maximum true vapor pressure of the total organic HAPs in the liquid is less than 76.6 kilopascals, the permittee shall reduce HAP emissions to the atmosphere by operating and maintaining either a fixed roof and internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed vent system and control device.**  
**(40 CFR 63.646(a), Subpart CC and 40 CFR 63.119(a)(1))**
8. **For each Group 1 storage vessel storing a liquid for which the maximum true vapor pressure of the total organic HAPs in the liquid is greater than or equal to 76.6 kilopascals, the permittee shall operate and maintain a closed vent system and control device.**  
**(40 CFR 63.646(a), Subpart CC and 40 CFR 63.119(a)(2))**

9. For each Group 1 storage vessel using an internal floating roof, the permittee shall adhere to the applicable operational guidelines in 40 CFR 63.119(b).  
(40 CFR 63.646(a), Subpart CC and 40 CFR 63.119(b)(1) through (4))
10. For each Group 1 storage vessel using an external floating roof, the permittee shall adhere to the applicable operational guidelines in 40 CFR 63.119(c).  
(40 CFR 63.646(a), Subpart CC and 40 CFR 63.119(c)(1) and (c)(3))
11. For each Group 1 storage vessel, the permittee shall adhere to the applicable operational guidelines in 40 CFR 63.646(f)(1) through (3).  
(40 CFR 63.646(f)(1) through (3))

**b. Testing & Monitoring**

1. To demonstrate compliance with the limitations specified in Table II.H.1.a. of this permit, the permittee shall comply with the control requirements of 40 CFR 63.119 through 121 as referenced by 40 CFR 63.646. This provision applies once a tank becomes subject to the requirements of the rule by the first degassing and cleaning activity after August 18, 1998, or within 10 years after August 18, 1995, whichever is first.  
(40 CFR 63.646(a), Subpart CC)
2. When complying with the inspection requirements of 40 CFR 63.120, the permittee is not required to comply with the provisions for gaskets, slotted membranes, and sleeve seals.  
(40 CFR 63.646(e))
3. Failure to perform inspections and monitoring as specified by 40 CFR 63.646 and 63.120 shall constitute a violation of 40 CFR 63, Subpart CC.  
(40 CFR 63.646(g) and 40 CFR 63.120)
4. To demonstrate compliance with 40 CFR 63.119(b) or with 40 CFR 63.119(d), the permittee shall comply with the requirements of 40 CFR 63.120(a)(1) through (a)(7).  
(40 CFR 63.646 and 40 CFR 63.120(a)(2))
5. To demonstrate compliance with 40 CFR 63.119(c), the permittee shall comply with the requirements of 40 CFR 63.120(b)(1) through (b)(10).  
(40 CFR 63.646 and 40 CFR 63.120(b)(1) through (b)(10))

**c. Reporting**

1. The permittee shall make reports of testing and monitoring in accordance with the requirements of 40 CFR 63.122 as referenced in 40 CFR 63.646. The permittee shall submit an initial Notification of Compliance Status report as required by 40 CFR 63.654(f). The permittee shall maintain a copy of the report on-site for the life of the facility.  
(40 CFR 63.646, 63.654(f), and 63.122)
2. The permittee shall submit Periodic Reports no later than 60 days after the end of each 6-month period following submission of the initial Notification of Compliance Status report as required by 40 CFR 63.654(g). The Periodic Reports shall include the information specified in 40 CFR 63.654(g)(1) through (g)(8). In addition, the permittee shall adhere to the reporting requirements of 40 CFR 63.654(h).  
(40 CFR 63.646 and 40 CFR 63.654(g) and (h))
3. The permittee shall submit reports of startup, shutdown, and malfunction as required by 40 CFR 63.10(d)(5). "Startup" and "shutdown" shall have the meaning defined in 40 CFR 63.641. "Malfunction" shall have the meaning defined in 40 CFR 63.2.  
(40 CFR 63.654(h))

**d. Recordkeeping**

1. The permittee shall keep the records specified in 40 CFR 63.123 of Subpart G of this part except as specified in 40 CFR 63.654(i).  
(40 CFR 63.654(i))
2. For each Group 1 storage vessel, the permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be maintained on-site for as long as the vessel retains Group 1 status and is in operation.  
(40 CFR 63.654(i) and 40 CFR 63.123(a))
3. The permittee shall keep a record of all reports submitted in accordance with 40 CFR 63.654(e). Such records shall be maintained on-site for inspection by DEQ for the most recent 5-year period.  
(40 CFR 63.654(i) and 40 CFR 63.654(f) through (h))

## 2. Gasoline Loading Rack

### a. Limitations

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
LOADING	Gasoline Truck Loading Rack vent and VCU	HAP	10 mg of VOC per 1000 liters of gasoline loaded, as demonstrated by stack test and monitoring for presence of a flame.	40 CFR 63.650 and 40 CFR 63.422(b)
LOADING	Gasoline truck loading rack	HAP	Work Practice Standard: Load only vapor tight trucks using a vapor tight closed vent collection system	40 CFR 63.650 and 40 CFR 63.422(c)

1. Compliance with these applicable requirements shall be proof of compliance with all other less-stringent emission limitations, including 9 VAC 5-40-5220 C and 5230 C.  
(9 VAC 5-80-110)
2. Except as provided in paragraphs (b) through (c) of 40 CFR 63.650, the permittee shall comply with 40 CFR 63.421, 63.422(a) through (c), 63.425(a) through (c), 63.425(e) through (h), 63.427(a) and (b), and 63.428(b), (c), (g)(1), and (h)(1) through (h)(3), as appropriate.  
(9 VAC 5-80-110 B)
3. The permittee shall comply with 40 CFR 63.422(a) through (c) limiting emissions to 10 mg/l of gasoline loaded and the loading of vapor tight trucks.  
(40 CFR 63.650 and 63.422(a) through (c))

### b. Testing

1. The permittee shall conduct a performance test on the loading rack and loading rack controls in accordance with 40 CFR 63.425(a) through (c) as referenced in 40 CFR 63.650.
2. The permittee shall only load trucks that have met the testing requirements of 40 CFR 63.425(e) through (h) as referenced in 40 CFR 63.650.  
(40 CFR 63.650 and 40 CFR 63.425(a) through (c) and (e) through (h))

### c. Monitoring

1. The permittee shall maintain and operate a monitoring device (capable of measuring temperature) on the gasoline loading rack controls in compliance with 40 CFR 63.427(a) and (b) as referenced in 40 CFR 63.650.  
(40 CFR 63.650 and 40 CFR 63.427(a) and (b))

### d. Reporting and Recordkeeping

1. The permittee shall make reports and keep records in accordance with 40 CFR 63.428(b), (c), (g)(1), and (h)(1) through (h)(3) as referenced in 40 CFR 63.650. Such records shall be maintained on-site for inspection by DEQ for the most recent 5-year period.  
(40 CFR 63.654(b))

**3. Group 1 Miscellaneous Process Vents:**

**a. Limitations**

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
ENTIRE FACILITY	Group 1 Miscellaneous Process Vents	HAP	Reduce emissions of organic HAPs using a flare that meets the requirements of 40 CFR 63.11(b) of subpart A of this part or other control device as required in 40 CFR 63.643.	40 CFR 63.643(a)(1) Miscellaneous process vent provisions.

1. At the time of permit issue, the permittee operates no Group 2 miscellaneous process vents to the atmosphere. Vents routed to the refinery fuel gas system are not subject to 40 CFR 63 Subpart CC, as they do not meet the definition of a miscellaneous process vent. Any other existing or subsequent vents that are routed to the fuel gas system or are otherwise exempt from the definition of a miscellaneous process vent are not subject to 40 CFR 60 Subpart CC.  
(40 CFR 63.641)
2. All Group 1 miscellaneous process vents as defined in 40 CFR 63.641 and identified above shall be routed to a flare that meets the requirements of 40 CFR 63.11(b) of Subpart A or other control device as required in 40 CFR 63.643.  
(40 CFR 63.643(a) and (b))

**b. Testing**

1. To demonstrate compliance with 40 CFR 63.643, the permittee shall follow 40 CFR 63.116 (excluding 40 CFR 63.116(a)(1), (d) and (e)) except as provided in 40 CFR 63.645(b) through (d) and (i).  
(40 CFR 63.645(a))

**c. Monitoring**

1. When using a flare as the control device, for each Group 1 miscellaneous process vent, the permittee shall monitor the control device according to 40 CFR 63.644(a)(2) and bypasses according to 40 CFR 63.644(c)(2). When using another control device, for each Group 1 miscellaneous process vent, the permittee shall monitor the control device and bypasses according to 40 CFR 63.644.  
(40 CFR 63.644)

**d. Reporting & Recordkeeping**

1. The permittee shall provide reports and maintain records as specified in 40 CFR 63.654(f), (g), and (h) and 40 CFR 63.654(i)(3) and (4).  
(40 CFR 63.654(e), (f), (g), (h), and (i))

#### 4. Equipment Leak Standards

##### a. Limitations

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
ENTIRE FACILITY	Components in organic HAP service	HAP	Leak Detection & Repair Program	40 CFR 63.648. Equipment leak standards

- Equipment leaks that are subject to **40 CFR Part 63 and to 40 CFR Parts 60 and 61** are required to comply only with the equipment leak provisions of 40 CFR 63.  
(40 CFR 63.640(p))
- The permittee shall comply with the provisions of 40 CFR Part 60 Subpart VV and paragraph (b) of **40 CFR 63.648** except as provided in paragraphs (a)(1), (a)(2), and (c) through (i) of 40 CFR 63.648.  
(40 CFR 63.648)

##### b. Monitoring

- Monitoring of components shall be performed in accordance with the provisions of 40 CFR Part 60 Subpart VV and 40 CFR 63.648.  
(40 CFR 63.648)

##### c. Testing

- In conducting performance tests required, the permittee shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A or other methods and procedures as specified in 40 CFR 60.485, except as provided in 40 CFR 60.8(b).  
(40 CFR 63.485)

##### d. Reporting & Recordkeeping

- The permittee shall comply with the recordkeeping and reporting provisions in 40 CFR 60.486 and 60.487 except as provided in 40 CFR 63.654(d)(1) through (d)(3).  
(40 CFR 63.654(d))
- The permittee shall keep a list of identification numbers for valves that are designated as leakless as defined in 40 CFR 63.648(c)(10). The permittee shall maintain this list on-site for the life of the facility.**  
(40 CFR 63.654(d)(4))
- The permittee shall identify, either by list or location (area or refining process unit), equipment in organic HAP service less than 300 hours per year within refining process units subject to 40 CFR 63, Subpart CC. The permittee shall maintain this list on-site for the life of the facility.**  
(40 CFR 63.654(d)(5))
- The permittee shall keep a list of reciprocating pumps and compressors determined to be exempt from the seal requirements of 40 CFR 63.648(f) and (i). The permittee shall maintain this list on-site for the life of the facility.**  
(40 CFR 63.654(d)(6))

## 5. Wastewater provisions

### a. Limitations

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
WWTP	P11A OSBL Above Ground sewer	BENZENE/ HAP	Equipment Standard: Each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces.	40 CFR 61.346(b)(3) Standards: Individual drain systems.
ENTIRE FACILITY	All Units Underground ISBL sewers in benzene service	BENZENE/ HAP	Equipment Standards: Closed drain system with water and/or mechanical seals and controls.	40 CFR 61.346(b). Standards: Individual drain systems.
WWTP	R2 - R4 Ultraformer, Crude Unit, and Coker O/W separators	BENZENE/ HAP	Equipment Standard : Fixed roof requirements	40 CFR 61.347 Standards: Oil-water separators.
WWTP	R5 - R8 WWTP Four CPI Separators	BENZENE/ HAP	Equipment Standard : Fixed roof requirements	40 CFR 61.347 Standards: Oil-water separators.
WWTP	R9 WWTP IGF	BENZENE/ HAP	Equipment Standard : Fixed roof requirements	40 CFR 61.348(b)(1) and 61.343(a), (c) & (d). Standards: Treatment processes and Standards: Tanks.
WWTP	P11B Activated Sludge Plant	BENZENE/ HAP	Enhanced Biodegradation Unit	40 CFR 61.348(b)(2) Standards: Treatment processes.
WWTP	A2 - A5 Closed vent system to Carbon Canister Controls on R5 - R9 and R2 - R4	BENZENE/ HAP	Equipment/Work Practice - LDAR Program on closed vent system	40 CFR 61.349(a)(1) Standards: Closed-vent systems and control devices.
WWTP	A2 - A5 Carbon Canister Controls on R5 - R9 and R2 - R4	BENZENE/ HAP	Equipment and Performance Standard: 95% VOC or 98% benzene control	40 CFR 61.349(a)(2) Standards: Closed-vent systems and control devices.
BLEND/TANK	Tanks 23, 24, 907, 908, 909, 910, 911, 912, and 913 (old Tanks 85 through 93)	BENZENE/ HAP	Equipment Standard: Floating Roof and primary/secondary seal requirements	40 CFR 61.351(a)(2) Alternative standards for tanks SUBPART FF National Emission Standard for Benzene Waste Operations and 60.112b(a)(2) Standard for volatile organic compounds (VOC). SUBPART Kb Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984

Unit Name	Name/Description of Unit	Pollutants	Description of Applicable Requirement/ Emission Limit/Standard/Work Practice	Citation
BLEND/TANK	Fixed Roof Tanks 22, 25, 54, and 55 (old Fixed Roof Tanks 94, 95, 96, and 105)	BENZENE/ HAP	Equipment Standard: Fixed roof and closed vent system that routes all organic vapors vented from the tanks to a control device	40 CFR 61.343 Standards: Tanks. 40 CFR 61 SUBPART FF National Emission Standard for Benzene Waste Operations.

1. Except as provided in paragraph 40 CFR 63.647(b), the permittee shall comply with the requirements of 40 CFR 63.647, and 40 CFR 61.340 through 61.355 for each process wastewater stream that meets the definition of a Group 1 wastewater stream in 40 CFR 63.641.  
(40 CFR 63.647 and 40 CFR 61.340 through 61.355)
2. Any refinery Group 1 wastewater stream managed in a piece of equipment that is also subject to the provisions of 40 CFR Part 60, Subpart QQQ is required to comply only with 40 CFR 63.647. Tanks subject to both 40 CFR 63.647, 40 CFR 60 Subpart Kb, and possibly 9 VAC 5-40-5220(B) and 40 CFR 63.646 and shall comply only with 40 CFR 60 Subpart Kb. **For the Fixed Roof Tanks 22, 25, 54, and 55, the control requirements of 40 CFR 60, Subpart QQQ, requiring a closed-vent control system shall be deemed adequate to comply with the closed-vent system control requirements of 40 CFR 61.343(a)(1) and 40 CFR 61.349.**  
(40 CFR 63.647, 63.640(o)(1), and 40 CFR 61.343(a))
3. Tanks subject to both 40 CFR 63.647 (wastewater provisions) and 40 CFR 63.646 (storage tank provisions) shall comply with 40 CFR 647.  
(40 CFR 63.647, 40 CFR 63.640(n), and 9 VAC 5-80-110 B)

**b. Monitoring**

1. The permittee shall comply with the monitoring requirements in 40 CFR 61.354.  
(40 CFR 61.354)
2. The permittee, where required to perform periodic measurement of benzene concentration in wastewater, or to monitor process or control device operating parameters, shall operate in a manner consistent with the minimum or maximum (as appropriate) permitted concentration or operating parameter values. Operation of the process, treatment unit, or control device resulting in a measured concentration or operating parameter value outside the permitted limits shall constitute a violation of the emission standards. Failure to perform required leak monitoring for closed vent systems and control devices or failure to repair leaks within the time period specified in 40 CFR Part 61 Subpart FF shall constitute a violation of 40 CFR 63.647.  
(40 CFR 60.647)

**c. Testing**

1. The permittee shall use test methods in accordance with 40 CFR 61.355, as applicable.  
(40 CFR 63.647)

**d. Reporting & Recordkeeping**

1. The permittee shall comply with the recordkeeping and reporting provisions in 40 CFR 61.356 and 61.357 of 40 CFR Part 61 Subpart FF.  
(40 CFR 63.654(a))

**6. NESHAP Subpart CC Overall Reporting & Recordkeeping**

1. In addition to the detailed reporting requirements outlined above for each individual Refinery MACT standard, the permittee will comply with the applicable reporting and recordkeeping requirements in 40 CFR 63 Subpart A, 40 CFR 63.654 and tables in 40 CFR 63 Subpart CC  
(40 CFR 63 Subpart A and 40 CFR 63.654)

## **I. Emission Unit Specific Permit Terms (State Only Enforceable)**

### **1. Standard for hydrogen sulfide**

No owner or other person shall cause or permit to be discharged into the atmosphere from any refinery process gas stream any hydrogen sulfide emissions in excess of a concentration of 15 grains per 100 cubic feet of gas without burning or removing H<sub>2</sub>S in excess of this concentration.  
(9 VAC 5-40-1380)

### **2. Standard for Odor**

No owner or other person shall cause or permit to be discharged into the atmosphere from any affected facility any emissions which cause an odor objectionable to individuals of ordinary sensibility.  
(9 VAC 5-40-140)

### **3. Standard for Toxic Pollutants**

If a stationary source or operation not part of a stationary source is not exempt under 9 VAC 5-40-160 C or D, then the following standards shall be met:

- Regardless of any other provision of these regulations, no owner or other person shall cause or permit to be discharged into the atmosphere from any affected facility any emissions of toxic pollutants in such quantities as to cause, or contribute to, any significant ambient air concentration that may cause, or contribute to, the endangerment of human health.
- The owner of an affected facility shall employ control strategies as may be directed by the board for the control of toxic pollutants. The board may consider the potency and toxicity of each regulated toxic pollutant as well as the technical and economic feasibility of any available control strategies. Possible control strategies may include but are not limited to emission control equipment, process changes, substitution of less toxic or non-toxic materials, or operation and maintenance procedures which lower or eliminate emissions of toxic pollutants.  
(9 VAC 5-40-180)

### III. Facility-wide and General Requirements

#### A. Facility Wide Conditions and Permit Terms (Federally Enforceable)

##### 1. Existing Source Standard for Visible Emissions

No owner or other person shall cause or permit to be discharged into the atmosphere from any fuel burning equipment unit any visible emissions which exhibit greater than 20% opacity, except for one six minute period in any one hour of not more than 60% opacity. Failure to meet the requirements of this section because of the presence of water vapor shall not be a violation of this section. This standard is applicable to the following emission units:

FIRED SOURCE	Fuel
Utility Boiler 1 Babcock & Wilcox Steam Boiler (before 1972)	Gas & Oil
Utility Boiler 2 Babcock & Wilcox Steam Boiler (before 1972)	Gas & Oil
ULTRA furnace F-101 (before 1972)	Gas
ULTRA furnace F-201 (before 1972)	Gas
ULTRA furnace F-301 (before 1972)	Gas
ULTRA furnace F-303 (before 1972)	Gas
ULTRA furnace F-304 (before 1972)	Gas
ULTRA furnace F-307 (before 1972)	Gas
SRU Incinerator	Gas
Refinery Flare	Gas

Compliance shall be demonstrated by the permittee utilizing EPA Method 9 (reference 40 CFR 60 Appendix A) once per calendar quarter.  
(9 VAC 5-40-940)

##### 2. New Source Standard for visible emissions

Unless specified otherwise in this part, on or after the date on which the performance test required to be conducted by 9 VAC 5-50-30 is completed, no owner or other person shall cause or permit to be discharged into the atmosphere from any affected facility any visible emissions which exhibit greater than 20% opacity, except for one six-minute period in any one hour of not more than 30% opacity. Failure to meet the requirements of this section because of the presence of water vapor shall not be a violation of this section. This standard is applicable to the following emission units:

FIRED SOURCE	FUEL
Crude atmospheric / CO Furnace B-101 (1978)	Gas
ULTRA furnace F-302 A & B (1990)	Gas
Crude Vacuum Furnace B-102 (1978)	Gas
ULTRA furnace F-305/6 (1990)	Gas

FIRED SOURCE	FUEL
Truck Loadout Enclosed Flare	Gas
Coker Furnace BA-101 (1990)	Gas

Compliance shall be demonstrated by the permittee utilizing EPA Method 9 (reference 40 CFR 60 Appendix A) once per calendar quarter.  
(9 VAC 5-50-80)

## **B. General Permit Conditions (Federally Enforceable)**

### **1. Recordkeeping and reporting**

- All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:
  - (a) The date, place as defined in the permit, and time of sampling or measurements.
  - (b) The date(s) analyses were performed.
  - (c) The company or entity that performed the analyses.
  - (d) The analytical techniques or methods used.
  - (e) The results of such analyses.
  - (f) The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

- Records of all monitoring data and support information shall be retained for at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(9 VAC 5-80-110 F)

- The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ. Reports shall cover a period of six months. The reporting periods shall be from the first day of the month to the last day of the sixth month. Reports shall be postmarked or delivered no later than 60 days following the end of the reporting period. The first reporting period shall commence on **January 1, 2002**. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- (a) The time period included in the report.
- (b) All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:
- (c) Exceedance of emissions limitations or operational restrictions;
- (d) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,
- (e) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.
- (f) If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."

(9 VAC 5-80-110 F)

## 2. **Failure/Malfunction Reporting**

If, for any reason, the affected facilities or related air pollution control equipment fails or malfunctions and may cause excess emissions for more than one hour, the owner shall notify the Director, Tidewater Regional Office within four (4) daytime business hours of the occurrence. In addition, the owner shall provide a written statement, within 14 days, explaining the problem, corrective action taken, and the estimated duration of the breakdown/shut down.

(9 VAC 5-20-180 C)

## 3. **Permit Deviation Reporting**

The permittee shall notify the **Director, Tidewater Regional Office**, within 4 daytime business hours of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the occurrence, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General **Condition B.1** of this permit.

(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

## 4. **Severability**

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.

(9 VAC 5-80-110 G.1)

## 5. **Duty to Comply**

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(9 VAC 5-80-110 G.2)

**6. Need to Halt or Reduce Activity not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(9 VAC 5-80-110 G.3)

**7. Permit Action for Cause**

This permit may be modified, revoked, reopened, and reissued, or terminated for cause as specified in 9 VAC 5-80-110 L, 9 VAC 5-80-240 and 9 VAC 5-80-260. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(9 VAC 5-80-110 G.4)

**8. Property Rights**

The permit does not convey any property rights of any sort, or any exclusive privilege.

(9 VAC 5-80-110 G.5)

**9. Duty to Submit Information**

The permittee shall furnish to the board, within a reasonable time, any information that the board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the board along with a claim of confidentiality.

(9 VAC 5-80-110 G.6)

Any document (including reports) required in a permit condition to be submitted to the board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.

(9 VAC 5-80-110 K.1)

**10. Duty to Supplement or Correct Application**

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.

(9 VAC 5-80-80 E)

**11. Duty to Pay Permit Fees**

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-305 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-355 (Rule 8-6 of the Regulations).

(9 VAC 5-80-110 H)

**12. Changes to Permits for Emissions Trading**

No permit revision shall be required, under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

(9 VAC 5-80-110 I)

**13. Emissions Trading**

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

- All terms and conditions required under 9 VAC 5-80-110 except subsection N shall be included to determine compliance.
- The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
- The owner shall meet all applicable requirements including the requirements of Rule 8-5.

(9 VAC 5-80-110 I)

**14. Alternative operating scenarios**

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of Rule 8-5 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution.

(9 VAC 5-80-110 J)

**15. Inspection and entry requirements**

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

- Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
- Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
- Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
- Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

**16. Annual Compliance Certification**

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices for a period of twelve months. The report shall be postmarked or delivered no later than 60 days following the end of the twelve-month period. The reporting periods shall coincide with the monitoring reporting periods. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- The time period included in the certification.
- The identification of each term or condition of the permit that is the basis of the certification.
- The status of compliance with the terms and conditions of the permit for the period covered by the certification, based upon the method or means identified.
- Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
- Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.
- Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be sent to EPA at the following address:

Clean Air Act Title V Compliance Certification (3AP00)  
U. S. Environmental Protection Agency, Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

(9 VAC 5-80-110 K.5)

**17. Reopening For Cause**

The permit shall be reopened by the board if additional federal requirements become applicable to a major source with a remaining permit term of three or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

The permit shall be reopened if the board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

The permit shall be reopened if the administrator or the board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

The permit shall not be reopened by the board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D. of the State Air Pollution Control Board's Regulations for the Control and Abatement of Air Pollution.  
(9 VAC 5-80-110 L)

**18. Permit Availability**

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.  
(9 VAC 5-80-150 E)

**19. Transfer of Permits**

No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.

In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.

In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.  
(9 VAC 5-80-160)

**20. Permit Expiration**

Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 9 VAC 5-80-80.  
(9 VAC 5-80-170 B)

**21. Malfunction as an Affirmative Defense**

A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the conditions of paragraph 2 are met.

The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:

- A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
- The permitted facility was at the time being properly operated.
- During the period of the malfunction the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.
- The permittee notified the board of the malfunction within two working days following the time when the emissions limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, telegraph, or any other method that allows the permittee to comply with the deadline. The notice fulfills the requirement of 9 VAC 5-80-110 F.2.b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirements under 9 VAC 5-20-180 C.

In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any requirement applicable to the source.  
(9 VAC 5-80-250)

## 22. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of this rule. The board may suspend, under such conditions and for such period of time as the board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.

(9 VAC 5-80-260)

## C. Permit Shield

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. Though this permit includes excerpts from applicable regulations, this permit does not limit the permittee's compliance options or prevent the permittee from using current or future compliance options or regulatory amendments. Therefore, other than the sections in the general provision on recordkeeping and reporting, the language in the specific sections of Part II on Limitations, Testing, Monitoring, Reporting and Recordkeeping is provided as an information tool only. Specific requirements and regulations at the given citations contain further details as to the requirement and applicability to the emission unit. The permittee is allowed to use regulatory options, present and future, under the applicable requirements contained in this permit without requiring a modification to this permit.

This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements that have been explicitly deemed to be not applicable to this permitted facility:

Citation	Title Of Citation	Description of non applicability
40 CFR 63 Subpart Y	National Emission Standards For Marine Tank Vessel Tank Loading Operations	Subpart Y does not apply to the Yorktown Refinery marine loading operations that meet the definition of offshore loading.
40 CFR 60 Subpart J - FCCU and Sulfur Recovery Plants	Standards Of Performance For Petroleum Refineries	The permittee's FCCU and Sulfur Recovery Plant are not affected facilities.
40 CFR 60 Subpart RRR	Standards Of Performance For VOC Emissions From SOCM I Reactor Processes	None of the units in the refinery, including the Ether unit, are SOCM I chemical units. None of the reactors have vents direct to the atmosphere, which are regulated under Subpart RRR.
40 CFR 60 Subpart NNN	Standards Of Performance For VOC Emissions From SOCM I Distillation Operations	None of the units in the refinery, including the Ether unit, are SOCM I chemical units. None of the distillation units have vents direct to the atmosphere, which are regulated under Subpart NNN.
40 CFR 60 Subpart XX	Standards Of Performance For Bulk Gasoline Terminals	The loading rack at the refinery is not a bulk gasoline terminal and is not an affected facility under Subpart XX. It is regulated under the stricter requirements in 40 CFR 63 Subpart CC.
40 CFR 60 Subpart K	Standards Of Performance For Storage Vessels For Petroleum Liquids - June 11, 1973 TO May 19, 1978	The only tank that could be an affected facility under Subpart K, tank 110, is regulated under the stricter requirements of 40 CFR 63 Subpart CC that specifically precludes Subpart K applicability.
40 CFR 61 Subpart J	National Emission Standard For Equipment Leaks (Fugitive Emission Sources) Of Benzene	The permittee is required to comply with the equipment leak standards in 40 CFR 63 Subpart CC which specifically precludes compliance with any equipment leak standards in Part 60 or 61.
40 CFR 61 Subpart BB	National Emission Standard For Benzene Emissions From Benzene Transfer Operations	The permittee is not an affected facility as it is not involved in benzene transfer operations.
40 CFR 63 Subpart H	National Emission Standards For Organic Hazardous Air Pollutants For Equipment Leaks	The permittee has no units subject to 40 CFR 63 Subpart F, which is a requirement for Subpart G applicability.

Citation	Title Of Citation	Description of non applicability
40 CFR 63 Subpart F	National Emission Standards For Organic Hazardous Air Pollutants From The Synthetic Organic Chemical Manufacturing Industry	The permittee has no units that meet the applicability requirements of a chemical manufacturing process unit. The rule is therefore not applicable.
40 CFR 63 Subpart G	National Emission Standards For Organic Hazardous Air Pollutants From The Synthetic Organic Chemical Manufacturing Industry For Process Vents, Storage Vessels, Transfer Operations, And Wastewater	The permittee has no units subject to 40 CFR 63 Subpart F, which is a requirement for Subpart G applicability. However, the permittee must comply with portions of the rule that are referenced in 40 CFR 63 Subpart CC.
40 CFR 63 Subpart Q	National Emission Standards For Hazardous Air Pollutants For Industrial Process Cooling Towers	The rule only applies to industrial cooling towers that operated with chromium-based water treatment chemicals on or after September 8, 1994. Use of chromium-based chemicals was terminated prior to that date.
40 CFR 63 Subpart R	National Emission Standards For Gasoline Distribution Facilities (Bulk Gasoline Terminals And Pipeline Breakout Stations)	The permittee is not a bulk gasoline terminal or pipeline breakout station; the rule is not wholly applicable. However, the permittee must comply with portions of the rule that are referenced in 40 CFR 63 Subpart CC.
9 VAC 5 Article 25 (Rule 25)	Emission Standards For Volatile Organic Compound Storage And Transfer Operations	The refinery does not store or transfer VOL compounds. It is instead regulated under Rule 4-37 for Petroleum Liquid Storage and Transfer Operations and 40 CFR 63 Subpart CC

Nothing in this permit shield shall alter the provisions of § 303 of the Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the (i) administrator pursuant to § 114 of the Clean Air Act, (ii) the Board pursuant to § 10.1-1314 or § 10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to § 10.1-1307.3 of the Virginia Air Pollution Control Law.  
 (9 VAC 5-80-140)

